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CONTENTS.

THE EMPLOYMENT AGENCIES BILL.

The bill introduced in the New York legislature for the regulation of employment agencies deserves most careful consideration. The object of the bill—to protect the public against the operations of fraudulent employment agencies—is good enough, and its promoters are to be commended for their evident intention to do away with a growing and bothersome evil, but the system provided in the bill for the removal of the evil is out of harmony with a public sentiment that demands municipal home rule.

The bill, the authorship of which is credited to John McMackin, commissioner of the state bureau of labor statistics, prohibits any person from carrying on the employment agency business withhut having secured a license from the state comptroller, the fee of $200 or $100, according to the size of the city wherein the license operates, being payable to the state; requires a bond of $1,000 from each license, upon which the state comptroller is authorized to sue for violations of the conditions of the licenses; requires all licensed agencies to keep a complete record of their business transactions, which shall be open to the inspection of the state labor commissioner; provides that all fees accepted from applicants for employment shall be refunded unless the employment is secured for the applicant within one month after payment of the fee, and makes the state commissioner of labor statistics the inspector of all employment agencies with compensation of one-half the fines and penalties recovered for violations of the law.

Under such a system of regulation the employment agency evil in the state of New York would be given a boon for which the "sharks" engaged in the business ought to be very thankful. If Mr. McMackin's bill becomes a law it will supersede all existing statutes and ordinances on the subject and thereby remove all municipal regulation of the employment agencies. The substituted state regulation would be inadequate and incapable. The state comptroller upon whose judgment the licenses are proposed to be issued and revoked cannot be expected to enjoy an acquaintance with all of the people in the various cities of the state who may wish to engage in the employment agency business, nor can he be expected to know the bondsmen offered by the applicants for licenses. The bill does not provide for giving the comptroller any facilities for ascertaining the fitness of applicants for licenses and of their bondsmen.

Under the proposed state law any person with the necessary fee and a couple of irresponsible friends to sign his bond could secure a license and then rob the public until he is stopped by the state commissioner of labor statistics. To prevent employment agents so disposed from enjoying a long siege of plunder our worthy labor commissioner must needs

have a long and circuitous vision from his headquarters at Albany.

If the employment agency business is to be regulated at all it must be regulated at short range—by the municipality. None but the local officials can be capable of issuing and revoking licenses for this business. Every applicant should be known to the official who issues the license, and unless he can give satisfactory evidence of his integrity and provide qualified bondsmen he should be denied a license. That every person licensed to carry on this business should be under the surveillance of the local police authorities, in order to secure the absolute protection of the public, cannot be disputed.

Any law that does not place the regulation of employment agencies with the municipality will strike wide of its mark. If Mr. McMackin cannot see into the future as we do, perhaps he will give passing recognition to the fact that the majority of the people in this state, on general principles, are opposed to any further usurpation of the functions of the municipality by the state.

WHY NOT INVESTIGATE?

The National Electric Light Association will meet at Chicago on May 22, 23 and 24. In the meanwhile it behooves the League of American Municipalities to take some action upon the challenge of the electric light organization to join with it in an expert examination of the results of municipal ownership of lighting plants. This challenge was offered at the Syracuse convention of the League, where it was accepted with the understanding that the proposed investigation should be carried on by two experts, one to be appointed by the president of each organization, and the expense of the work, limited to $5,000, to be paid in equal shares by the two associations. The League, however, also stipulated that its acceptance was conditioned upon its ability to raise the necessary $2,500 by subscription, the regular revenue of the organization not being available for such an undertaking.

So far as our observation reaches the League has made no effort to raise the funds for the investigation, while the electric light asociation has not only secured its half of the money, but stands ready to furnish the entire $5,000. In other words, the electric light people are prepared to contribute to the League its share of the expense of the proposed investigation.

Considering that the electric light association is composed of parties having large financial interests involved in the question proposed for investigation, and that the results of any such investigation would be of great value to these parties, it seems entirely proper that they should bear the expense, which they are willing to do.

The League can in no way prejudice its case by accepting an offer from the electric light association to furnish all of the funds necessary for the investigation, in case such an offer is made unaccompanied by any embarrassing conditions. It matters not where the money comes from so long as the League is left free to appoint one of the two investigators and exercise an equal and unprejudiced hand with the electric light association in the conduct of the investigation.

Many of the mayors and other city officials who were present at the Syracuse meeting of the League when the proposition of the electric light association was submitted, regarded it as a "bluff." Now, after the lapse of five months, we find the electric light people still talking and the League silent. The officials of the electric light association publicly announce their willingness to have the investigation go on at their expense. If this is a "bluff," it should be promptly called.

GARBAGE DISPOSAL A MUNICIPAL DUTY.

The position taken by the editor of "City Government," in a paper read before the last convention of the League of American Municipalities, that the collection and disposal of garbage is a municipal duty, is sustained by Mayor Maybury of Detroit, who says in his annual message to the council:

> I have been insistent upon the duty of the city to itself take care of the collection and destruction of garbage. In this recommendation, I am not influenced by any motive whatever, except that I look upon present conditions as surrendering up largely to private control that which never should pass from public control. If it should happen that disease is traced to the improper or non-removal of festering garbage, it can hardly be answered that this most important matter has been farmed out to private contract. The city, in my judgment, has no right to release its absolute control and responsibility in this matter, more especially when it is conceded that the careful collection of the garbage of our city can be made the source of at least sufficient profit to pay for the expense, if not adding a profit thereto. I therefore recommend, as I have on two other occasions, that the city obtain from the legislature authority to build, control, and operate its own garbage plant, and that authority to bond for this purpose be requested. I think that at the termination of the existing contract held by private parties, it should be in position to enter upon the care and control and treatment of its own garbage.

While we agree with the mayor in the statement that the collection and disposal of garbage can not properly be delegated to private parties, we do not think he is warranted in anticipating any pecuniary profit to the city from the work. Any method of handling garbage that is not entirely sanitary can be only a makeshift and its tolerance by the public will be temporary. If we are to reach the highest standard of municipal cleanliness and public health protection in this country we must of necessity come to a realization of the importance of a perfect system for the collection and disposal of all kinds of refuse. Any system that takes care of but one sort of refuse, as the reduction or utilization system does, is by no means perfect, and while it may be tolerated for a few years, it is not destined to keep up with the progressive spirit of American municipal administration.

If the mayor of Detroit has in mind the reduction or utilization process of garbage disposal when he anticipates a pecuniary profit in the work he is very likely to be disappointed in his financial calculations, and furthermore, he has only a makeshift under consideration. It may be that some of the contractors operating garbage reduction works are making good profits, but it is safe to assert that such profits are in the bonuses received by them from the municipalities. When the municipalities undertake to operate such works the profits will disappear with the bonuses.

IMPORTANT TELEPHONE CONSOLIDATION.

The consolidation of the two independent telephone companies of Michigan with the Michigan (Bell) Telephone Company bears out the argument, several times put forth in these columns, that the telephone business is a natural monopoly and no advantage can be gained for the public by granting franchises to competing companies. In speaking of the Michigan consolidation, Charles Flowers, president of one of the independent companies, says:

"After four years of struggle the stockholders in the Detroit Telephone Company seem to have been willing to sell to get the company on a paying basis. The company has declared but one dividend, and that a very small one, about a year ago. We have never made any money. Consolidation has got to be the result of every case where there are competing companies. People do not want to be bothered with two telephones. The accommodation of the public demands consolidation."

The Michigan companies which have been consolidated operate in Detroit and forty-six other places, having about 10,000 subscribers and 6,000 miles of long distance lines.

EDITORIAL COMMENT.

The mayor of Sacramento, Cal., falls in line with a suggestion ferquently made in these columns, when in his annual message, he says:

> Considerable complaint is made during the summer months of the great amount of dust raised on the streets by the electric cars. I believe that a reasonable and fair solution of the difficulty would be an arrangement between the Sacramento Electric, Gas and Railway Company and the city by which the company would furnish and operate tank cars at specified times, to properly sprinkle streets used by its cars, and the city should supply water free to the company for that purpose.

Street railway companies ought to be willing to furnish and operate sprinkling cars in all such cases, for the operation of their cars raises the dust nuisance and the people have a right to call upon them for its abatement. The expense incurred by the railway companies in sprinkling would be covered to a great extent by additional receipts; many people are deterred from taking open car rides in the summer by the dust nuisance.

Chief of Detectives Colleran of Chicago has issued a peremptory order to the city pawnbrokers commanding them to give up stolen property when properly identified without the usual replevin suit in a justice court. Capt. Colleran is right and it is to be hoped he will rigidly enforce his new order. Stolen property recovered from the pawnshops in Chicago amounts to $5,000 a month. In most cases the owners are glad to pay the interest and avoid an experience in a justice shop. But such a practice is simply putting a premium on theft. The pawnbroker has an easy living from the proceeds of his exorbitant charges without being enabled to come into possession of valuable goods, that in many cases he must have a shrewd suspicion were stolen, for an inconsiderable sum.

Some joker in the Cleveland, Ohio, council has introduced an ordinance providing for the placing of cuspidors every 200 feet on all the public streets in the city. If iron cuspidors are used, they will come in handy for the next Cleveland riot.

—Shippensburg, Pa., citizens will vote on the question of increasing the borough debt $8,500 for the purpose of estabilshing an electric light plant. The election will be held in conjunction with the regular county elections in February.

SOME SUCCESSFUL MAYORS.

I.—JOHN MAC VICAR OF DES MOINES.

John Mac Vicar's success as a public official has its foundation in the man's sincerity. What he says to the public from the platform is always spoken dispassionately and with such quiet deliberation and earnest expression that each statement carries with it the recognized stamp of sincerity. John Mac Vicar is none of your fanciful, flowery speakers who bring every other sentence to an end with a vocabulation happily thrown together for the purpose of eliciting spontaneous thoughtless applause. He lacks the power to work his audience into a high state of temporary excitement and enthusiasm, but he possesses the more valuable faculty of compelling the careful attention and thoughtful consideration of his hearers. He sends an audience home with something to think about.

In his every day life he works with the same cool deliberation as he exhibits on the platform. With his purpose clearly defined he sets out to accomplish it and never wavers until it is done. No matter how great the undertaking may be nor how remarkable the progress of it, there is no trumpet blare, no self-praise, no craving for encouraging plaudits as the work goes on. It is merely a quiet man going through his labors in a quiet way. When there are others whose purposes run counter to those of Mayor Mac Vicar, he is not the man to weaken—his purpose, having been formed and fixed after the most thoughtful consideration, is always the reasonable one and it triumphs on that account and because it has honesty behind it.

The old saw that "every man has his price" finds contradiction in John Mac Vicar. He is poor enough to be low priced, if priced at all, but the honesty that shines in his eyes and imprints itself upon his every act bears no price tag whatever. To know this man is enough to discourage one from ever attempting to corrupt him. There are those who have been willing enough to find a price tag on him—they have looked for it in vain and given up the search in despair.

Many mayors, being politicians of the general style, are addicted to the small vices that make the "good fellow" of this day's society. Some drink, some smoke, some swear, some tell funny stories, others do all these things, but John Mac Vicar has no time for such trivial diversions. He denies to no man the right to make a "good fellow" of himself through the convenient help of small vices—he likes all of the "good fellows" and equips himself to be a useful friend to them by studying various problems of sociology with which they have no inclination to bother.

Two men have made national reputations as mayors—one is Pingree of Detroit and the other Jones of Toledo. Mayor Mac Vicar deserves better than either of them the nation-wide reputation. He is slow and the nation-wide reputation. He is as much a socialist as either the Detroit or the Toledo man, and tries with Pingree to adhere to the republican party, with a prospect of following Jones into the non-partisan class. John Mac Vicar is a man of no use to his party managers, and his party press has maligned and ridiculed him as magnificently as it has Pingree and Jones. All three are most worthy citizens to be loved for the enemies they have made, as we used to say of Mr. Cleveland.

Mr. Mac Vicar was first elected mayor of Des Moines in April, 1896, having been nominated by the republicans against the will of the local party bosses. He had for several years been a conspicuous figure in a citizens' movement to reduce exorbitant taxes, direct and indirect. Light and water were in those days sold to the people of Des Moines at rates profitable for the franchise holders and burdensome for the public. Mr. Mac Vicar, as the leader of the citizens' water committee, was not much of a believer in the "vested rights" of the local water company, under which they claimed the privilege and enjoyed the practice of charging monopolistic prices for water for both public and private use. It was the distinction gained by Mr. Mac Vicar in his fight for reduced water rates and municipal ownership that marked him as the mayoralty candidate of the best citizens of Des Moines. After receiving the republican nomination, he was bitterly fought all through the campaign by the "most influential" politicians of his party. Every leader who boasted of carrying the vote of his ward in his vest pocket turned in to whip Mac Vicar --and so did all of the republican newspapers. This opposition, together with that of the light, water and street railway corporations, powerful as it was, did not prevent Mr. Mac Vicar from receiving the largest plurality ever given a candidate for mayor of Des Moines.

After his election, Mayor Mac Vicar proceeded to carry out his pledges to the people. Through his influence the price paid to the

MAYOR JOHN MAC VICAR.

water company by the city for fire protection was reduced from an average of $650 per mile of mains to $350 per mile, resulting in a saving of public funds amounting to $25,000 yearly. The tax levy for water for fire protection was reduced from four to two mills. Then came a reduction of about 33 per cent. in the water rates for private consumers, meaning another saving of not less than $25,000 a year for the people.

Mayor Mac Vicar next gave his attention to the lighting companies. With the aid of a citizens' gas committee and the city council, the mayor cut another big slice off corporation profits for the benefit of the public. The price of gas went from $1.75 per thousand feet down to $1.20, and as the annual consumption amounts to about 80,000,000 feet, gas consumers in Des Moines are saving about $45,000 a year. Gas street lights were cut from $22 to $17 per lamp per year, saving the public treasury over $3,000 annually. To make things even more interesting the gas company was required to pay 2 per cent. of its gross receipts into the city treasury, and the item amounts to about $2,000 a year. The rates for electric street lights were reduced from $126 and $96 to $75 and $65, for all night and moonlight lamps, respectively, saving to the public about $13,000 yearly. A cut in the gasoline light rate made a saving of $4,000 annually.

Now, here is the net result: Annual saving on public water rates, $25,000; annual saving on private water rates, $25,000; annual saving on public light rates, $22,000; annual saving on private light rates, $45,000; actual amount saved every year for the people, on water and light alone, $117,000. It seems from this that Mayor Mac Vicar earns his salary.

While the mayor's long suit is the regulation of public service franchises, he has also a habit of doing other things along the correct lines. During his administration no city in the west, excepting Detroit, has enjoyed streets as clean as those of Des Moines. The finest public library building west of Chicago is in course of construction, and a public auditorium with a seating capacity of 5,000 has just been completed. Public improvements have been carried on in conformity with the best of modern ideas by the board of public works, the members of which are appointed by the mayor. The police department, over which the mayor has complete control, has become one of the most efficient in the country, and all branches of the public service are kept at a high standard.

Mayor Mac Vicar was elected for his second term, which is now closing, in April, 1898, beating the same opposition of politicians, newspapers and corporations that he encountered in 1896. The majority of the people of Des Moines would like to vote him in for a third time, and if he becomes a candidate this spring on either the republican, democratic, populist, prohibition or socialist ticket, he will stay in the mayor's office another two years. The salary of the position can scarcely be attractive to a man of Mr. Mac Vicar's ability, but men of his kind find compensation in the conscientious discharge of a public duty. Mayor Mac Vicar's work for Des Moines is not finished and he should be asked to remain at his post until Des Moines has what he is striving to give her—municipally owned and operated public utilities.

Lowell's Water Supply.

Mayor Crawley, of Lowell, Mass., in his annual report, refers to the water department, as follows:

"The citizens now depend upon driven wells for their supply of water. One set of wells are known as the 'Cook wells' situated in the vicinity of City Farm. The other set of wells are known as the 'Boulevard wells' and are situated on the banks of the Merrimack river. These two systems of wells were put in a few years ago at considerable expense and were expected to yield an abundant supply of pure water for domestic purposes. The management of the water department so thought, and were happy in the thought, until early last year they were informed by the state board of health, that the water from the 'Cook wells' had such action upon lead pipe that the use of the water was dangerous to the public health. Consultations were had between the investigations which are still going on, and which is hoped will result in giving us an abundant supply of pure water, which will be satisfactory to the community.

"The finances of the department for the year 1899, the month of December being estimated, are receipts, $203,763.74; expenses, $198,055.04. These figures show that the present management, under the direction of the gentlemen who compose the water board, still maintain the excellent standing which this department has always sustained."

FIRE DEPARTMENTS.

New Department at East Haven.

A volunteer fire department has been organized at East Haven, Conn., with the following officers: Chief, Isaac Hagaman; foreman, Frank Willoughby; first assistant, William S. Chidsey; second assistant, Howard Stepp; treasurer, Ed. Foote Thompson; secretary, Leroy J. Kirkham; trustees, Samuel R. Chidsey, Edward B. Woodward and John S. Tyler.

The town has a hose wagon and 750 feet of hose. Additional apparatus and more hose will be purchased at once.

Electric Signals on Hose Lines.

The Boston fire department, after satisfactory experiments, has put electric hose in service at four of its stations. To the ordinary hose an electric wire has been attached, and a push button at the nozzle enables the pipeman to signal the engineer instantaneously. Before the introduction of this scheme the firemen were compelled to carry the hose filled with water from one point to another, which is a difficult and time losing operation. Now the water can be shut off instantaneously and the hose moved easily and rapidly. The new invention is also the means of diminishing the water damage in many cases.

Call Men Should be Abandoned.

Mayor Fred Eaton of Los Angeles, Cal., in his annual message, refers to the fire department as follows:

"The report of the chief engineer of the fire department shows the great improvements that have been made during the past year. The department is now excellently equipped and is able to give better protection to property than ever before in the city's history. One important change should yet be made in order to obtain the greatest efficiency in this department. The system of employing call men should be abandoned and each engine house should have a force of regular, full paid men, ready at all times to respond immediately to an alarm."

Illinois Firemen's Meeting.

The annual convention of the Illinois Firemen's Association, held last month at Princeton, was largely attended and many interesting papers were read. The following officers were elected for the ensuing year:

President, C. C. Chain of Bushnell; vice presidents, O. D. Wilcox of Monmouth, F. E. Danner of Mount Pulaski, G. B. Hirtman of Lincoln, J. M. Hartwig of Peoria, J. O. Hawker of Pana, Fred Reyer of Carthage, William Killenbach of La Salle, George A. Dietrich of Dixon and O. Reiche of Naperville; secretary, Walter E. Price of Champaign; treasurer, A. H. Scott of Clinton; statistician, B. F. Staymates of Clinton.

The tournament for this year was put up for the city bidding the highest and La Salle secured it for $550. It was decided to hold the next annual meeting at Pana on January 8, 1901.

For Protection of Flat Houses.

Chief Croker, of the New York fire department, has asked the city council to adopt an ordinance to require owners of tenement and flat houses to keep the halls and cellars thereof lighted all night. The chief says: "There should be an ordinance compelling the owners of all flats and apartment houses, occupied by more than three families, to have a light burning in each hallway and in cellars, from sunset to sunrise each day, as of late this department has had to contend with a large number of fires in such buildings, caused by the carelessness of tenants entering halls, etc., and lighting matches in order to find their way in the dark in halls and cellars. If such an ordinance is passed and observed, less fires and less loss of life would be the result."

New Orleans Fire Report.

Chief O'Connor, of the New Orleans fire department has submitted his report for the year just ended.

The department consists of twenty-seven steam engine companies, seven hook and ladder companies, twelve chemical engine companies, one water tower company; total of forty-seven companies. One chief engineer, five assistant engineers, one secretary-treasurer, one department physician, one veterinary surgeon, one clerk to chief, one master machinist, one storekeeper, 290 men and one messenger.

The department responded to 547 alarms of fire, viz: Bell alarms 326, still alarms 73, automatic alarms 12, telephone alarms 118, general alarms 16, repeated general alrms, 2; total 547. Of which 493 were actual fires, 42 were unnecessary alarms and 12 false alarms. The approximate amount of loss was $748,970, with amount of insurance involved $2,563,307.

Chief Roulett's Recommendations.

A large portion of the annual report of Chief F. J. Roulett of the Augusta, Ga., fire department, is given up to suggestions and recommendations for the extension of the water mains and for additional fire hydrants. The chief urges the council to place a fire company in the southwestern part of the city, where the fire losses have been rather heavy on account of the lack of protection. "Thirteen years have elapsed since the Augusta paid fire department was organized," says the chief, "and in all the length of time not one fire engine has been purchased. During this length of time the fire engines have been so greatly improved upon that the engines of this department compared with the modern engines of to-day are very distantly related. All of the department's engines were purchased during volunteer days when each company vied with the other to get an engine that could play a greater distance, paying little or no attention to volume or usefulness. With three exceptions the engines of this department have outlived their usefulness, and I would recommend the purchase of two up-to-date engines."

Money for Dayton Fire Department.

Representative Charles Atherton will endeavor to pass through the Ohio legislature a bill authorizing the city of Dayton to issue $72,000 of bonds for fire department improvements. Fire Commissioner Pryor of Dayton says the department actually needs the funds provided for in the bond bill. He refers to the fact that the department had not been able to secure the amounts required for several years, and that as a result its efficiency had been crippled.

"The fire department has done much to reduce the rate of insurance in Dayton and the construction of additional hose houses, and a provision for other improvements will go far toward maintaining these rates, besides conducing to the general benefit of the city," said he. "As the situation is now, the department would have a hard time to battle with a large fire. The city is growing and needs additional protection."

Chief Marjenhoff's Report.

The report of Chief O. G. Marjenhoff of the Charleston, S. C., fire department, for the year 1899 shows there were 94 alarms and a total loss of $29,575.71, with insurance of $26,951.71. The chief commends the officers and men of the force for their prompt and efficient service, and says: "At no time were less than six men on fire ground with fire apparatus to put same to work, and it has not been necessary to inflict a single fine for breach of discipline during the past year."

The total expense for the year amounted to $48,538.10, of which $39,371.79 was for salaries. The equipment of the department consists of ten steam fire engines, one double-tank chemical engine, two fuel wagons, three carts, six hose carriages, four hose wagons, one aerial truck, two hook and ladder trucks, fifteen fire extinguishers, thirty horses and a complete fire alarm system. There are 9,993 feet of good hose in service.

Mayor Proud of Fire Department.

Mayor Maybury of Detroit, in his annual message to the city council, says:

"The fire department of our city is reckoned among the most efficient and best equipped of any department in the country. The fire boat purchased a few years ago has fully justified its purchase, and, indeed, to such an extent, that a larger and more powerful boat is being built, and will be in commission some time during the coming year. With this addition to our department, and the possibility of the establishment of some stationary pumps at public stations at different parts of the city, we will have that measure of protection which places our property under the wisest and most efficient fire protection. Insurance rates in cities are established in a large measure upon the efficiency of the fire protection as given by the municipality. Under these conditions, our citizens should all have the benefit of a low insurance rate as a reasonable return for their liberality in supporting a most efficient fire department. It has been my privilege, in the

last year, to personally witness the efficient and heroic work of our firemen in instances that gave promise of widely extending conflagrations. I take occasion to repeat now what I said then, that the work of subduing fires was done with courage and skill, and I am sure that every citizen of Detroit feels safe in this regard in view of the splendid efficiency of our force."

No Politics To Be Tolerated.

Here is what Mayor Phelan of San Francisco says of the fire department in his annual message:

"The fire department has reached a high degree of efficiency under Chief Sullivan, but it should not be suffered for one moment to become a political machine in the interests of any faction, organization or party. If the men know that they will be protected so long as they do their duty, for which they are employed and paid by the city, they will welcome the new conditions. No longer will it be necessary for them to take orders from anybody, except in the line of their duty. Section 32 of article XVI. of the new charter requires the police and fire commissioners to remove any officer or employee who shall become involved in partisan strife, or pay an assessment for political purposes; and these boards expose themselves to removal if they refuse to enforce this section.

"The object of the charter is to remove these two important departments of the city government from active participation in political movements, on account of the great danger of their being controlled in special interests. Then men are left free to vote as they please, and in the spirit of the charter the taint of corrupt political bossism must be removed from the administration of the affairs of the police and fire departments of San Francisco."

Chief McAfee's Recommendations.

William C. McAfee, the able chief of the Baltimore, Md., fire department, has made many splendid recommendations in his annual report, from which the following is quoted:

"The installation of a pipe line system for fire purposes only to be supplied by the fire boat should be begun as soon as possible. The adoption of this recommendation would materially increase the efficiency of the department in that the powerful pumps of the fire boat be made available for service in protecting a large area of the business section of the city, and permit the return to quarters of a number of engine companies whose services at present are indispensable in the event of a large fire, thus increasing the protection of life and property at present afforded by the few engine companies left in reserve after a third or general alarm.

"The erection in all of the public schools of a fire alarm box, to be connected with the fire alarm telegraph system.

"The compulsory provision of portable fire escapes in each room of all hotels, boarding houses and lodging or buildings similarly occupied, to be designated by this department.

"The passage of an ordinance that will prevent the overcrowding of theatres, concert halls and other places of public gathering, and will compel the erection by the owner or owners of all buildings of this description of a fire alarm box therein, at a point designated by this department, and the installation of such fire extinguishing appliance as this department may direct, to be under the supervision and control of the department during the time audiences are assembled.

"The purchase of an additional fire boat of greater capacity than the boat at present in service to be equipped with the full complement of officers and men and organized an engine company of the department."

The chief also urged the desirability of establishing a school of instruction for firemen.

Report of York Department.

In his report for the year 1899, Chief Henry L. Wills of the York, Pa., fire department says twenty-four alarms and thirty telephone calls were answered by the department during the year, with a total loss of $8,664.35 on which an insurance of $6,888.99 was paid. The large number of calls compared with the small loss make a very creditable showing for the efficiency of the department. The chemical engines did much to reduce losses by fire.

In addition to many minor improvements, during the month of February, the Rescue Company placed in service a combination chemical engine and hose wagon. In September, the Vigilant Company added a hose wagon equipped with many of the devices for saving life. The Laurel Company also had its combination chemical engine and hose wagon supplied with Pompier ladders. These improvements are important and progressive. The utility of the chemical engine has been practically demonstrated during the past years and shows conclusively its value. The life saving division of the department is yet undeveloped. Time and training, however, will produce men who will be equal to every emergency, and this important feature will advance with the department.

The chief calls attention to the inadequacy of the hose in service and recommends the purchase of an additional supply.

Toledo Department's Work for the Year.

Chief C. F. Wall, of the Toledo, O., fire department, does not issue his annual report until April, but from the monthly reports for 1899 an exact review of the year's work may be made. During the year the department responded to 620 alarms, and the fire loss was $763,542.78. Deducting the loss by the C., H. & D. elevator fire, which makes up $592,417.68 of the total, the loss for the year would have been limited to $171,125.10 for 619 alarms, which speaks well for the department.

For these 620 alarms the horses have traveled traveled 5,900 3-4 miles. The men laid 335,250 feet of hose, raised 13,480 feet of ladder and worked 2,519 3-4 hours. Of course, the men put in the "remaining hours" at work, too, for the Toledo fireman has no "snap" in the $66.66 per month job that he holds down. When not fighting fires the men are cleaning apparatus, caring for the horses, repainting houses, mending hose and harness, and doing innumerable other little tasks about the engine houses. The men used 9,000 gallons of chemical solution on these fires, besides the tons of water pumped by the engines and used from the hydrants.

Of the total number of fires 305 were in frame buildings and 149 in brick and stone structures. Other than building fires numbered 113. The false alarm fiend got in his work to the extent of giving the department 52 useless and wearisome runs. Only three of the fires extended beyond the buildings in which they originated, the number of fires confined to the buildings in which they started numbering 451.

Four new engine houses were placed in commission during the year. Two new fire engines, four hose wagons and 3,000 feet of hose were purchased.

There are 128 men in the department, and only four of them were reprimanded during the year, something that speaks well for the discipline of the force.

Chief Wall advocates the use of sprinkling apparatus, automatic alarms and other modern devices in large factories and buildings; also more precaution by the proprietors.

Chief Joyner's Report.

Chief W. R. Joyner of the Atlanta, Ga., fire department makes an interesting report for the year 1899. It shows there were 384 fires, fifty-four less than were had during the year 1898, when the department was called out 438 times.

A significant fact mentioned in the report of Chief Joyner is that the number of fires during 1899 caused by sparks from chimneys and by defective flues were thirty-five less than those resulting from the same cause during 1898. This fact, says the report of Chief Joyner, is, in his opinion, due to the increased use of gas stoves. These stoves, says the report, do not require a flue and emit no sparks, greatly lessening the danger of fire.

The total value of the property at risk was about $2,500,000 and the fire loss for the year was $80,000. Under the head of "Proportion of Buildings Burned," Chief Joyner shows that there has not been a fire during the year at which the damage to the building amounted to $3,000. The great majority of losses were below $50, as is shown by the following figures:

Below $50	233
Damage between $50 and $100	20
Damage between $100 and $500	49
Damage between $500 and 1,000	8
Damage between $1,000 and $3,000	4
Damage above $3,000	0

The total expenditures of the department for the year amounted to $104,889.27, which was just 73 cents within the appropriation. The chief asks for an appropriation of $128,000 for the year 1900, so that a new engine house may be built, the fire alarm wires put underground and necessary supplies purchased.

Sacramento Fire Service.

The mayor of Sacramento, Cal., in his annual message, speaks of the fire service as follows:

"The fire department continues to maintain the high standard of excellence for which it has been distinguished and to which, in great part, the citizens of Sacramento are indebted for the small loss by fires. The city has a well organied, well-equipped and efficient force, the members of which have been prompt, active and fearless in the performance of the tasks assigned them, and their efforts are deserving of the warmest commendation.

"During the year I visited personally every fire engine-house, and made a thorough inspection of the fire department. It is my belief that it is in good condition, both as to discipline and efficiency, and it has been very economically managed, the showing it makes being extremely creditable to those in charge of it, and particularly Chief Henry A. Guthrie.

"A chemical engine, fully equipped, was added to the department, and has

rendered very effective service. The report of Chief Guthrie shows that it has more than paid for the expenditure incurred by its purchase in the saving of property.

"Seventy-five alarms from boxes, 25 still alarms (personal notification) and 52 telephone calls were promptly responded to.

"The losses on buildings amounted to the sum of $27,915.76, and the insurance paid on same was the sum of $27,365.76; the loss on movable property amounted to $26,976.88, and the insurance paid, $14,196.29.

"I would call your attention, as I did in my last annual message, to the fact that the alarm system is old and faulty, and should be supplanted by a non-interfering system as soon as the city's finances will permit; also, to the necessity of placing all the wires of the fire alarm service, electric light, telephone, etc., underground as speedily as possible. Interference by other wires of this department is liable at any time to prevent the sending in of an alarm."

To Eliminate Professionals.

[Excerpt from a paper by Chief A. B. Sivcrling, of Gibson City, read before the recent convention of the Illinois Firemen's Association.]

I hope that we may so regulate our rules for our next tournament that the teams coming to it shall realize that they cannot ring in a number of experts who do not belong to their fire companies or even to their cities.

When we do this, you will find that there will be plenty of teams that will come and take a part; but if we keep on as we have been doing for some time back, we will find our association without teams enough to fill the races. And I, as chief of our department, say now that if our rules are not amended and then enforced we will not take any further part. And I voice the sentiment of several of the chiefs in this convention.

But if, on the other hand, our rules are enforced, then I will be at our next tournament with a team which shall be composed of our own citizens, who belong to our fire company, and not one of them shall be an expert from any city in this or any other state.

Mr. President, I realize that now I shall come to the most vital point which will come before this convention at this session, and I hope that I shall see a rule adopted by this convention that will expel my team from this association when we do not abide by the rules and regulations which govern it. For, fellow firemen, the time is here when we must adopt rules and regulations and then see that they are enforced, or we may just as well adjourn this meeting of the I. F. A. and call it a "thing of the past." For I am here to say that if the next tournament cannot be run under the rules and regulations of the association, you can strike the name of Gibson City from your roll.

Mr. President, I want to say further that I am prepared to state to you that previous to the next tournament our city shall place in the hands of your officers a bond for $500, that if we come to the tournament with a team, it shall be in strict compliance with the rules of this association. If we do not, our city shall forfeit the bond. And I want to see every other team do likewise.

Furthermore, you can hold our winnings (if we have any) for thirty days after the tournament, and if in that time it is shown that we have committed a fraud, we will forfeit all.

You may think that these would be very harsh terms, but, fellow firemen, I want to say that, if we do not adopt some such means as these, our association will go down; and it had better do so than to continue the way we have been doing.

New Orleans Fire Department.

Fire Commissioner B. P. Sullivan has given out the following statement in regard to the New Orleans fire department:

"The year of 1899 witnessed a vast improvement in the apparatus and general equipment of our department; in fact, it is to-day, while by no means among the largest, one of the most efficient fire fighters in the United States. The most important addition to our department is the big self-propeller or horseless engine. This is the largest and most powerful machine of its kind as yet turned out in this country. It is registered as the 'double extra first size," having a boiler 40 inches in diameter and 70 inches high, of the tubular pattern, containing 315 copper tubes. The cylinders meausre 9 1-2 inches, with 8-inch stroke. The pumps are 5 3-4 inches, with a throwing capacity of from 1,350 to 3,000 gallons of water per minute. The very material advantages of the self-propeller are that it carries 80 pounds of steam at all times, is ready to work the moment it leaves the engine house, does away with horses and the cost of maintaining them, including the expense of shoeing, harness, gasoline, etc. The fuel consumed by the engine costs about $3 per month, and the average saving per annum amounts to about $400, showing that if all our engines were automobile the saving would aggregate about $10,000 per annum for the twenty-seven companies now in service. The improvements made in the past two years in the horseless engine clearly show that we shall all live to see the engines of all larger cities propelled by some motive power other than horses as a matter of economy and efficiency. The Paris fire department is now being equipped with electrical hose wagons, and Chicago has also turned out a similar wagon, which has proved a success, especially on the streets in the West Side, which are almost impassable. The New York fire department have added to their equipment an electric searchlight, which has many advantages over the old system of illumination.

"Next in point of effectiveness to the self-propeller is the Gleason & Bailey 85-foot aerial truck. This ladder can be raised to its full height with the horses hitched, can be swung around in a complete circle, and can be thrown from one side to the other in a few seconds—feats that cannot be accomplished by any other aerial truck made. The truck is also supplied with a baggage car and life net, both of which are most valuable life-saving adjuncts. We have also contracted for four new special size Amoskeag fire engines, which, by reason of their special size, pumps and stroke, can throw 60 gallons of water per minute with terrific force. At the same time they are light enough to be pulled easily over the streets in the suburbs. These are the first lot of Amoskeag engines contracted for since the paid department came into existence. They are remarkable for their great structural strength, making steam rapidly, retaining steam longer and requiring but few if any repairs. They can be operated far more economically than any engine made, and cost about $3,700 each.

"The department has also been equipped with the Miller smoke protectors, which enables firemen to enter a building filled with smoke, and without danger of suffocation. Still another improvement is the substitution, at the recommendation of the apparatus committee, of rubber for cotton-lined hose. The objection to the latter is that it has to be dried after a fire, and in consequence double the quantity was necessary, and as the guaranteed life of hose is only three years, the enormous loss of some $15,000 every three years, or $5,000 per annum, will be saved by the adoption of the rubber hose, which cost the same per foot as the cotton-lined hose. Sixteen thousand feet of rubber hose is an ample supply, as against double that amount of cotton-lined hose.

"Another evil from which the department has been a sufferer is the amount of hose consumed. The 1899 report showed a total of 3,700 feet consumed, with only 466 feet replaced in service. An inventory, ordered immediately upon the discovery, revealed a wide discrepancy in the hose account carried on the books and the actual hose on hand; and this discrepancy has not as yet been accounted for or explained. The transition from the volunteer to the paid department has been of such recent date that it is a difficult matter to eliminate the old volunteer ideas from the service and put into operation a system conforming with modern progress.

"During the past year the engine repair bills have been reduced to a minimum figure. In the matter of equipment we have: One Amoskeag double extra first class (horseless); six American engines, with 4 3-4-inch pumps; three American engines with 4 1-4 inch pumps; six American engines with 4-inch pumps; five American engines with 3 5-8-inch pumps; four Amoskeag specials with 3 7-8-inch pumps; all of which are new and in good order.

"We also have in service one Amoskeag 4-inch pump; one Jeffreys 4 3-4-inch pump; two Ahrens 4-inch pumps, and six spare engines not in service. The latter, while old and out of date, can be used in cases of emergency. We have 27 hose carriages and 5 fuel wagons.

"Our hook and ladder equipment consists on one Gleason & Bailey 85 feet aerial, three Seagrave improved extension trucks, two city extension trucks, one village truck and three spare trucks.

"Of chemical engines we have one combined chemical and hose wagon, five Holloway double tank chemical engines, six Babcock chemical engines and two spare chemical engines. There is also one water tower in the department, which should be rebuilt to make it a modern piece of fire apparatus.

"To add to their effectiveness, our engines should be equipped with rubber tires, which would be a great saving of repair bills and of vast benefit to both men and animals.

"The department would be greatly benefited by the addition of modern combination hose and chemical wagons, which are now being introduced in the fire service in other cities. These wagons weigh over 4,000 pounds and are readily drawn by two horses.

"There is now being made by Superintendent P. T. Burke, at his headquarters, a folding ladder, the invention of an active fireman, D. T. Callahan of Washington, D. C., which I am satisfied will revolutionize the manufacture of truck ladders, etc., and if made of steel instead of

wood could be carried on the hose wagons, taking up a space about three inches square.

"What this department lacks more than anything else is a full complement of men to each company. We should have at least ten in number, as under present conditions with seven men companies, in case of sickness, are so handicapped as not to be effective.

"The department at present consists of twenty-seven steam fire engine companies (No. 28 now building), seven truck companies, twelve chemical engine companies, one water tower company; and so far as promptness in getting to and hard and intelligent work at fires are concerned our men are superior to any department in the country, the paucity of men to each company being considered."

What Fire Departments Should Have

[Full text of a paper by Chief J. D. Paige, of Joliet, read before the recent convention of the Illinois Firemen's Association.]

Mr. President and Members of the Illinois State Firemen's Association:

I have talked and written so much upon fire department matters that it is quite impossible for me to treat this subject of "Some things a fire department ought to know and other things they ought to have," with any new ideas. Although the title of this paper is new, I am not entitled to the credit for it, as Brother Staymates is the author. What applies to paid fire departments seldom applies in but a limited sense to volunteers; and as this convention is largely made up of volunteers, it is of them I shall first speak.

You should know the necessity of having for your chief a man that ranks in your town with your bank president or leading merchants. Such a man will lift you up and bring to you the material aid you need; and although he may not be an ideal fireman from the standpoint of some, he will make you much more popular, and a better department, than one with a fog horn voice and that uses large blocks of profanity. Fire departments ought to know that the respect and high esteem in which they are held by their own people comes from their loyalty and unselfish patriotism to the protection of the lives and property of their people, when in peril. The enthusiasm with which they spring to the rescue without expectation of reward when the dread fire alarm sounds. And the volunteer should so conduct himself in his private walks of life as to always merit their esteem, for no other city department is ever met at the gate upon their return from abroad by the populace, and with banners flying and music sounding, the banquet is spread by fair hands, and the speeches of welcome are sincere. If there are any firemen that think it is the correct thing to be loafers, they should quickly disabuse their minds of that idea. Firemen should know that the fire service is one of the best educators known; and whenever possible, members should study cause and effect of everything connected with the service. Meeting in the engine houses to play cards and read the Police Gazette will not qualify you for efficient firemen, nor will working at fires alone make you an expert fireman. This work is simply putting in practice the theory of fire work that should be crystalized and made ready for work when there is no fire. I am aware that this is not always practicable for volunteers in towns where they don't have half a dozen fires in a year, and amusements are scarce, as the volunteer is largely a social organization, and when the town gets large enough to furnish other places of recreation and amusement, then the volunteer association dies, for they have learned very little of the rudiments of fire service, and a paid department has to be built up largely of new material. You should know in case of fire what will be your friend, and what your enemy; whether a fire can burn at all when exposed to a wind with a velocity of thirty miles an hour. Of course, the exposures will show you whether you can make the wind available or not. One experience will not give you the desired information in all cases. If you could have a high wind in a basement fire, it would in a large majority of cases be your friend.

You should know what effect smoke will have in all kinds of cases, and what effect the atmospheric conditions are going to have. You should know whether a building will fall or not, by the location of the fire, and the kind of building it is, and how long it has been built, the carrying width, and the probable load on its floors. If of stone, and has been built seventeen years, if of brick and has been built eight years, it is reasonably safe, and would be an unusual thing for the walls to fall in case of fire. If brick or stone buildings are new, look out for them; they come down like a cob house. You should know how much addition to the load you are making by pouring in water.

You should know it is not bravery to not know your danger, and face it, but it is to know it and face it. Foolhardiness is not bravery. You should understand friction, and know how much of a stream you are going to get with the various lengths of lines laid; and put such a size tip on your play pipe as will give you the stream desired. You should know that you can destroy more merchandise by water than the fire is likely to destroy. You should know what kinds of merchandise are most damaged by water and smoke. Cigars are most damaged by smoke, and hardware most damaged by water. You should know that the insurance companies are watching you. You should know that there is considerable valuable information to be gleaned from the papers published in the interests of firemen, although they do print considerable rubbish about some one having a smart horse that can chew tobacco. Of course such stuff will not educate a fireman. You should know that undue haste makes just as much waste at a fire as anything else. Haste to get there is all right, but coolness and brains to direct the work afterwards. You should know that if you have been drinking intoxicating liquor just before the fire or during the fire, that you are incapacitated for going in dangerous places. Nearly all the accidents to firemen happen to drinking men. Water should not be put on an oil fire. Ditch the oil off if practicable; otherwise wet down the surroundings and let the oil burn until you can cover it with earth, if that is possible; otherwise, let it burn out. Always put your water on the fire. If you cannot see anything but smoke, and cannot locate the fire, then wait until the fire makes its appearance. Fire in a basement often shows as much smoke at the roof as anywhere. Do not in your hurry tear off the roof to begin with. Do not be scared at a gasoline fire. Gasoline makes great flame, but it is quickly over, and then you can understandingly attend to the fire that is left, if any. It is frequently the case that it leaves none.

Iron ladders with stand pipe for hose should be insisted upon all buildings three or more stories in height. You should know flouring mills are very explosive. You should know what all the buildings you have to protect contain. If the fire in a building is beyond control upon your arrival, let it burn, and devote your energies to saving adjoining property. Firemen should have comfortable quarters, and volunteers should have attractive quarters. They should have some kind of fire alarm. In these days of plentiful telephones, a very satisfactory and inexpensive one can be provided by the telephone management; and of course somebody's bell must be rung. Then fire hose, and not too much of it. It may not be taken care of in a manner to get its full value. Hose should be purchased to fit your water pressure. If you cannot get but a hundred pounds pressure (and you cannot get but half that, as a rule at the pipe), then a single ply cotton hose at about fifty cents a foot will last longer than the heavier and costlier. If you get it wet, dry it in the sun or on the sidewalk, when practicable. Never wash it. Sweep it off with a stiff broom. A cap and reducer, with a nipple for one-inch hose, is a necessity when you want a small stream to craw around with in cramped places. A hundred feet of rubber hose is about the right thing for this service. It is assumed you have water works or a steamer. Expensive nozzles are not a necessity. A light nozzle that can be grasped anywhere is the best for all uses. Shut off nozzles are not a necessity, and are bad for the hose or the pumps. Deluge sets are only useful when there must be a unity of streams. Learn to put out the fire without deluging it. Insurance companies will make a note of it if you do. If you must drag your machine to a fire by hand, let that be all that is expected of the men who do the hauling. If they must take the place of horses, let them do as horses do—stand and look on—for they are certainly unable to work; and have another set of men to work on the fire. A chemical engine is a great thing, but of very little use in a manual volunteer department. Hand chemicals of about three gallons each should always be a part of the equipment. A few short ladders, twelve, fourteen and sixteen feet, and capable of being spliced by putting two of them together, are a necessity. A roof ladder, of the Pompier style, but with a hook on the end, is mighty handy to assist in crawling over roofs. Three Pompier ladders, fourteen feet long, are a necessity. With these you can scale any height. Some belts and rope belong to this outfit. One wagon can carry all these things with the hose. A wagon is much better than a reel for the good of the hose, and is much more convenient and adaptable for all kinds of service.

When looking for information, only apply to towns of similar size of your own. Much larger and much smaller towns than yours may need an entirely different outfit. Always get what will fit your town. Great attention has been paid to quick hitching and quick getting out of the house, but little attention to quick extinguishment of fires. This is a matter that should be given careful attention, for the quickness with which you can extinguish a fire is everything, and all else is but apendatory thereto. Now are we making progress in this direction? Some are, and some are not, and I doubt whether those that have made progress knew that they were doing so, and appreciated the importance of the work.

Now, what shall we do? I can answer the question in no better way than by giving my own experience. In 1877, '78, and '79, we put out our fires with fire engines. We had no chemical engines or water works. But we had plenty of streams and ponds everywhere, and as we carried our suction connected to the steamer, we could take suction much quicker than can be done from a hydrant. In 1877, the average time for extinguishing a fire was one hundred minutes. In 1878, one hundred and twenty minutes; in 1879, ninety-seven minutes. Then no record of time working at fires was kept, until 1893. We then had a direct pressure system of water works, and used no steamers, and had two chemical engines. The average time for extinguishing fires was eighty-one minutes in 1893. In 1894, eighty-two minutes. In 1895, we had three chemicals; average time, seventy-three minutes. In 1896 the average time was seventy-one minutes. In 1897, seventy-one minutes. In 1898, sixty-seven minutes. In 1899 we had four chemicals; average time, thirty-four minutes. The longest time in 1899 was four hours, and the shortest was ten minutes; this time being in all cases cited, the actual time after work on the fire was commenced. And there has been a corresponding reduction in fire losses per fire. So you see that it is important that such appliances should be constantly put in service that will reduce the time of extinguishment of a fire. The steam fire engine is entirely too slow, and is a serious obstruction to traffic in large cities. A direct pressure of sixty pounds taken from a hydrant, where buildings average four stories in height, will double discount any fire engine, and with plenty of chemical engines, a department can put out ninety-nine per cent. of all the fires before the engine gets under way. The large cities must come to a direct pressure system, more chemicals, and less engines; and it is the chief's fault that no further progress has been made in this direction, for the principle of direct pressure, and a separate system of pumping works for fires was urged upon them twenty-five years ago. They are at last adopting it in a small way, and the time is near at hand when it will become universal, and the fire engine will be a thing of the past. An automatic fire alarm, a water tower on a ten-ton truck, eight feet wide, and eight wheels low down, capable of reaching the roof of the highest buildings, made slightly larger at the top than at the bottom, except a short top section, will not buck and tip over; the whole to be run by steam or electricity. With a thousand gallon tank of chemicals to inject into the water, a portable fire escape like an elevator, to run up to any height, with gangways to be thrown out at windows, and a wind engine to blow away smoke; plenty of chemical engines; and a search light, will set us forward where we ought to be, and large fires will be no more.

Fire Department Notes.

—Joseph H. Bell has been elected chief fire marshal of Annapolis, Md.

—J. T. Prowitt has been appointed chief of the fire department at Norwalk, Conn.

—Thomas F. Cadden has been chosen chief of the fire department at East Pittsburg, Pa.

—Chief Fancher of New Haven, Conn., will detail one of his best men to take the full course at the New York fire department's school of instruction. After having taken the course, this man will be placed in charge of the New Haven instruction school, the work of which is to be extended.

—The American Fire Engine Co. of Seneca Falls, N. Y., have issued one of the handsomest of the New Year calendars. It is in the form of a colored lithographic view of lower Broadway, New York city, showing the fire department on a run, with a three-hitch American engine in the van.

—The Nebraska State Volunteer Firemen's Association met in annual convention at Norfolk last month and elected the following officers: President, A. C. Hull of Fremont; first vice president, R. T. Hite of Grand Island; second vice president, J. W. Moist of York; secretary, E. A. Miller of Kearney; treasurer, G. A. Youngson of Minden. Next year's convention will be held at Seward.

—Under the provisions of the new charter the board of estimate and apportionment of Rochester, N. Y., have fixed the salaries of the members of the fire department as follows: Chief engineer, $2,280; battalion chiefs, each, $1,500; captains, each, $1,080; lieutenants, each, $960; engineers, each, $960; overseer of hose depot, $960; assistant hose depot, $960; pipemen, each, $900; stokers, each, $900; drivers, each, $900; foreman of horse hospital, $1,080; assistant foreman horse hospital, $960; laborers, each, $600; superintendent of fire alarm telegraph system, $1,500; linemen, each, $900.

BOSTON SUBWAY REPORT.

The report of the Boston transit commission for the year ended August 15, 1899, has been published. At the date of the report the subway as a whole had been in use a little over eleven months. Statistics for the full year cannot, therefore, be given. It is, however, believed to be a safe estimate that the use of the subway for the first eleven months has been at the rate of at least 50,000,000 passengers per year. The Boston elevated railway and the Lynn & Boston railway together operate in Boston and vicinity over 400 miles of track, reckoned as single track, and in the year 1897 to 1898 carried in round numbers 200,000,000 passengers. The trackage in the subway is one-eightieth of this total trackage (5 miles out of 400), and yet it appears as above that of the total number of passengers carried on all the 400 miles of track of these two great roads, about one out of four passes through some portion of the subway.

The estimated cost of the subway as originally planned in 1894 was $5,000,000. Its net cost to the date of this report is $4,141,896.46. The increase of this amount will be small. The total cost probably will not exceed $4,200,000. The rentals paid by the street railway companies for the quarter ended July 1, 1899, amounted to $51,205.82.

MUNICIPAL PLANT CRITICISED.

At a recent meeting of the Logansport, Ind., council the annual report of the city electric light department was submitted. The total cost of operating the plant for the year amounted to $23,973. The cash receipts from private lighting, rent of meters, sale of lamps and miscellaneous were about $20,000. Other credits, such as street lighting and light service in various city departments, brings the total up to $34,000, an increase in gross earnings over last year of $3,000, but a decrease in net earnings over last year of $7,000. During the year $22,000 was expended in entensions, $350 for electrical machinery, $1,800 for power-house addition, $12,000 for engines and boilers, $2,000 for incandescent lines, $1,800 for transformers, $3,000 for meters, $700 for street lines. The total cost of plant since its establishment has been $130,665.45.

In an open discussion following the reading of the report Councilman S. B. Boyer charged that there was mismanagement in operating the plant and suggested methods which, in his opinion, would save money. Councilman Thomas Austin asserted that the plant was not making expenses and that by reason of expenditures from the general fund private citizens who did not have the service were, therefore, paying taxes to give their neighbors luxuries which consumers should pay themselves. Mr. Austin maintained that light could not be furnished by a private corporation for less than 7 or 8 cents per 1,000 watts, and that it was evident that the city was losing money in furnishing service at 5 cents per 1,000 watts.

LOS ANGELES PUBLIC LIGHTING.

Mayor Fred Eaton of Los Angeles, Cal., touches upon the public lighting subject in his annual message to the council as follows:

"The lighting of the city is being done for about one-third less than the cost in three-fourths of the cities of the Union. This favorable contract was secured because your honorable body took the wise course of preparing to provide the city with a distributing system of its own. While light can be secured at the present figure there is no advantage in owning such a system, but to insure that the city obtains the best market rates at all times we shall eventually be compelled to build or acquire a wire plant for the public lighting. Current can probably be obtained for many years for much less than it would cost the city to generate it, as the water power companies are in a position to supply electricity at a very low rate during the hours when it is required for lighting purposes."

FRANCHISE HOLDERS TO MEET.

The annual meeting of the Southwestern Gas, Electric and Street Railway Association will be held at Waco, Tex., on April 18, 19 and 20. The program includes the following papers: "Electrolysis," by E. H. Jenkins; "Meters and Lamps," by W. S. Rathell; "Operation of Corporations from a Business Standpoint," by A. E. Judge; "Electricity versus Gas for Lighting Purposes," by J. F. Cullinane; "Use and Care of Electric Meters," by E. D. Kelly; "Street Railways of Texas from a Historical Standpoint," by F. E. Scovill; "Operation and Maintenance of Street Railways," by H. F. McGregor; "The Attitude of Muncipal Corporations to the Public," by J. F. Strickland.

RAISED THE PRICE OF LIGHTS.

The new street lighting contract at Sacramento, Cal., provides for arc lights at $90.80 each per year, an increase of $27.00 over the price of last year's contract. There was no competition for the contract, there being but one bidder, and the m yor thinks this fact accounts for the increase in the rate. There is talk of establishing a municipal electric plant.

WATER DEPARTMENTS.

Evanston Wastes Water.

Commissioner of Public Works Moore of Evanston, Ill., advises the city council to introduce the meter system in the water department. In the last year the least amount of water pumped per capita per day was 125 gallons and the largest amount was 500 gallons. He says a saving of 50 to 75 per cent. would be made by the use of meters. He urges the council to give the water department more storage capacity, so there will be no danger from lack of water when pumps cannot be worked on account of anchor ice.

St. Paul Water Board Election.

John Caulfield was last month re-elected secretary of the St. Paul, Minn., water board. Machine politicians endeavored to defeat him, but as he had the unanimous support of the daily newspapers and the business men of all parties, the opposition disappeared on the day of the election and he was chosen without a dissenting vote. Mr. Caulfield has held his present position for more than thirty years, and the people of St. Paul will not listen to any proposition to retire him.

John Lindquist was elected superintendent to succeed A. R. Starkey.

John Wolterstorff was re-elected president of the board.

Water Works Successful.

In his annual message to the council, the mayor of Sacramento, Cal., says:

"The water department has always been a source of great revenue to the city. For years 55 per cent. of its earnings have been appropriated to the sinking and interest fund of the old bonded indebtedness, but now that this debt is liquidated, the income can be devoted to other purposes.

"The machinery is in good condition, considering the age of the Stevens and Holly engines; the former, however, has recently been repaired, and is now doing good service as a reserve pump. During the year a new heater for the boilers was put in, which was much needed.

"The amount of water pumped during the year amounted to 2,108,359,000 gallons, at an average cost of $9.11 per million gallons; average daily, 5,775,011 gallons."

Public Utilities in San Francisco.

The new board of public works of San Francisco is required by the charter to appoint an efficient engineer with the great purpose in view of providing, first, a water supply for San Francisco; secondly, a public lighting plant and afterward other public utilities. Within one year from this day "the supervisors must procure through the city engineer plans and estimates of the actual cost of the original construction and completion by the city and county of water works, gas works, electric light works, steam, water or electric power works, telephone lines, street railroads and such other utilities as the supervisors or the people by petition to the board may designate."

The supervisors must also procure and place on file plans and estimates of the cost of obtaining from all the several available sources a sufficient and permanent supply of water, as preliminary to incurring municipal indebtedness for its acquisition.

William R. Hill's Successor.

Mayor McGuire of Syracuse, through the commissioner of public works, has appointed John H. Moffitt to succeed William R. Hill as superintendent of the water works. Mr. Moffitt is a republican and formerly represented his district in the United States congress. Mayor McGuire believes the new city charter fixes too much power in the hands of the mayor to make an extreme partisan administration safe, and in regard to the appointment of Mr. Moffitt he says:

"At first I thought of making the appointment of superintendent of the water department from among the applicants for the place in the department, but the utter lack of harmony, together with the feeling manifested in the department, caused me to look for the most available man outside the service, and I think I have found him in Mr. Moffitt. He has been at the head of large enterprises requiring executive ability, and knows how to manage an office as well as to conduct public work or construction work. I am satisfied, solely from the standpoint of the city, that he is the best man for the place. I have thrown partisan considerations to the winds in urging this appointment on the commissioner of public works. Partisans who criticise me must remember that I promised the people a non-partisan administration."

Los Angeles Water Controversy.

The long drawn-out legal battle of the city of Los Angeles, Cal., against the Los Angeles Water Company, for the ownership of the local water system, is referred to by Mayor Fred. Eaton, in his annual message, in this way:

"The water controversy is proceeding along the lines indicated when the water company threatened that if the city did not accede to its demands, a multitude of lawsuits would be commenced. But the people of this city are determined to own their waterworks, and the time is not so distant when this will be an accomplished fact. The city has encountered delays in this fight, but in the main has won on all material points.

"The arbitration provision of the lease was always regarded as strongly advantageous to the water company, but it did not prove so, as the award was very fair and just to both parties. The expense of making this appraisement is a mere bagatelle compared with the results obtained. The cost and annoyance of pending litigation, made necessary by the action of the water company and its allies, must be borne with patience if we are to accomplish the end in view, and no amount of criticism from the opposition should deter us from pursuing this matter to a finish. The action of your honorable body in supporting our attorneys was commendable. The water company's intimations of a compromise have not yet developed into a definite proposition, nor is there any likelihood of this until the company has exhausted itself in the courts.

"The water bonds were offered for sale on the eve of a financial depression affecting all securities of this character, and we were forewarned by bankers that the time was inopportune for selling them. But they had been advertised and it was thought best to ascertain what objections, if any, might be made by buyers. If there are any technical reasons which might make the bonds invalid it is best to know them as soon as possible, as the city cannot afford to have its credit forever impaired by an outstanding obligation which the law will not permit it to meet.

"The predictions of the legal department that the water litigation will be brought to an early termination will be welcome to the taxpayers of the city."

Benefits of Pure Water.

The Albany, N. Y., board of water commissioners have submitted their annual report to the council. The report of Superintendent Bailey is included and contains many facts of interest.

Concerning the improvements made during the incumbency of the board of water commissioners, the superintendent reports that the pumping capacity has been increased nearly 200 per cent., the daily of 4,000,000 gallons of water has been stopped; 22 per cent. has been added to the length of the water mains; 46 per cent. more fire hydrants have been added and 60 per cent. of all the valves. The reservoirs have all been cleaned for the first time in the history of the waterworks. The water pressure of all the fire hydrants in the business portion of the city has been nearly doubled. The pressure in the other hydrants throughout the city has also been increased, thus effecting a saving in insurance premiums of about $80,000 per year.

In addition, the quality of the water has been greatly improved through the introduction of a filter plant, which does away with the necessity of the citizens paying some $40,000 annually for bottled spring water. Mr. Bailey also states that a considerable reduction in the cost of water to the consumer has been made.

Mr. Bailey has an interesting report on the operation of the new filtration plant, in which he gives a table showing the marked decrease in typhoid fever which has come about since the introduction of the filtered water.

Passaic's New Water Supply.

The Acquackanonk Water Company has recently completed its new waterworks and reservoirs at Passaic, N. J., and the city is now being supplied with water taken from above Little Falls. In order to avoid future possible contamination, and as a matter of official record, Mr. E. LeB. Gardiner, treasurer of the Acquackanonk Water Company, has forwarded to Mayor Howe a written statement, explaining that within the next

year it is the purpose of the water company to erect a proper sand filter bed, through which all water will be filtered before being sent to the city.

As a result of agitation on water charges, the company has decided on a radical change, and in a communication, dated December 11, states that it will "offer Passaic consumers the same rates charged by the Hackensack Water Company for small consumers and lower rates than those charged by the Hackensack Water Company to large consumers." This latter clause will be of great benefit to all manufacturing interests, and it is expected that the rates of private consumers will be much reduced over present charges. Meters have been placed in a number of houses already, and the result will be definitely known after a short trial. There are at this time two new water companies seeking a franchise in Passaic, but it is doubtful if the cost of water to the consumer will not be more under their proposals than under the present revised rates.

First Year of Municipal Ownership.

The city of Meadville, Pa., on Jan. 1, 1899, assumed control of the water works, which had been purchased from the Meadville Water Company for $200,000. The board of water commissioners, who have just issued their first annual report, make a very favorable showing. The receipts for water and services during the year amounted to $28,053.58, which gave a net profit of $10,666.06, of which $5,-100.00 went into the sinking fund, $4,-976.42 for extensions and $589.64 remains cash on hand. Aside from this profit the city gained a saving of $6,000, which is the amount formerly paid yearly for water used by the city.

The water commissioners on taking charge of the works found it necessary to make improvements at the pump station and to make such extensions of the water mains as were most urgently required. A new water wheel has been placed in the pump house which, together with the other rapairs, have cost approximately $1,163. Extensions have been made during 1899 at an approximate cost in new work of $4,976.

An inspection among consumers was made in order to ascertain whether premises were correctly rated and to examine for leaks. It was necessary to increase the rates where houses had been enlarged or additional conveniences put in. The increase in all cases was made upon the basis of rates established by the ordinance, which were the same as charged by the old company, and the commissioners believe that so long as water is supplied without meters occasional inspections should be made and all consumers required to pay as per schedule rates for the water consumed.

The most serious difficulty the commissioners have to contend with in the water department is the extravagant waste of water by consumers. "Some plan must be devised to prevent it," says their report, "or the city will be required to make a large outlay to meet it. The number of water takers at the close of 1899 is just double the number of water takers on September 22, 1884, fifteen years ago. While the number of takers has doubled during this period the consumption of water has increased to four times the amount required in 1884. Our per capita daily consumption of water for the year just closed is 188 1-3 gallons, nearly one-half of which represents waste beyond the most liberal needs of the population. In the city of Erie the per capita daily consumption is 108 gallons. We believe it will be necessary to place meters to a limited extent where excessive amounts of water are used, and, also, that all consumers who desire to use meters should be supplied with them at the cost price to the city, and to further this end we recommend that the water commission be empowered to purchase 100 meters."

Detroit's Water Supply.

In dealing with the water supply, in his annual mesage, Mayor Maybury of Detroit, says:

"The matter of the water supply of our city seems to be fairly solved, as far as our present needs are concerned, although it requires but little foresight to note that we are drifting towards conditions which, if not met promptly, will lead to appalling results. It is manifest that the intake pipes of our present system sometimes bring to the reservoir water that is impure. The reasons assigned for this are that the pipes are not extended far enough up towards the head of the island so as to catch the current of water coming from the lake; others claiming that the small creeks entering the river above the intake pipe send out their muddy deposits to stain and pollute the water. At a recent meeting of the mayor's council the question of the future water supply of the city was most ably discussed in a paper read by Commissioner Pendleton of that board, and discussed by the health officer and other members of boards in attendance. It seemed to be the consensus of opinion that one of two expedients must be adopted very soon, the first, and that which seems to have the approval of the present commission, is the extension of the present intake pipes or a tunnel, extending up and out into the deep channel of the river above the island. The second expedient suggested was the establishment of filtration beds at or near the head of the island, where the water could be properly purified before being sent into the intake pipes. The subject is one for scientific consideration and solution, and it is well to be forehanded and not wait until the time comes when, by the spread of epidemic diseases, we find that we have waited too long. I think it is conceded that, up to this time, and, perhaps, so far as the immediate future shows, Detroit is most favored in the abundance and purity of her water supply. The blessing of pure water and the widespread ruin that comes from water tainted with poison are such as to make us equally grateful for the former, and apprehensive of the latter. Surely, with the great supply at our doors, we are to blame if we do not have, at all times, the best water attainable for drinking and for every domestic and manufacturing purpose. I feel confident that we may leave this most important subject to the careful attention of our efficient and progressive board, and trust them for results."

Harrisburg and Springfield Water Works.

William S. Crandall, traveling corresponding of "City Government," was recently in Springfield, Ohio, where he was interviewed by the "Sun" in regard to the conduct of the local water works system. Mr. Crandall said:

Since visiting Springfield about a year ago I have inspected about twenty-five water departments, including that in the city of Harrisburg. Although one of the smaller cities, I found this Pennsylvania town to have the best organized, equipped and conducted plant of all the others that have come under my notice. My general observation of the conduct of muncipal water plants, I am sorry to say, compels me to make several not very complimentary statements. One of the chief complaints is that municipal plants, for what reason I am unable to say, do not feel the necessity of rendering the highest type of service the people are wont to demand, and not infrequently is demanded of private corporations. For example, the city of Philadelphia submits, with almost unprotesting meekness, to a most miserable service. I might name a dozen other prominent cities that suffer inconvenience at the hands of municipal organizations.

The most plausible explanation for this uncomplaining humility, is that it is our own plant, the service of our own household and we are accustomed to submit to home inconveniences when, if served by another, the same inconvenience would call forth an indignant protest.

A second point I have observed is the bad business methods employed. Politics are the cause of this evil. A large per cent of increased expense in conducting municipal plants is directly chargeable to this cause. The business man is always trying to arrange for four men to do five men's work, whereas, the politician is looking for one more place; thus the expense account creeps up.

Another bad policy in the conduct of municipal plants is the frequent change of employees. The plant which has been freest from all these objections is that of Harrisburg, Pa. A brief summary of what it has accomplished in comparison with similar conditions in this city may be of interest.

In Harrisburg we have a city of four square miles and a population of 50,000. Its water service supplies 8,000 families, one-half of which use meters. The annual pumpage in round figures is 2,400,000,000 gallons. The total receipts for 1898 were $36,169.00. The total disbursements, which included interest, sinking fund and expenses, were $58,279.00. The net operating expenses, $22,-249.00. To deliver 1,000 gallons of water to the consumer costs this department only seven mills. The lowest flat rate for a single service is $5.50, the highest, $8.00; based on the number of rooms in the house. The meter rate is 13 cents per 1,000 gallons for domestic service and the manufacturing rate ranges from 4 to 8 cents per 1,000 gallons. It is interesting to note also that with such a small area it has in use 575 fire hydrants.

Contrasting this with the department in Springfield, we find according to the report of 1899 that there was an annual pumpage of 975,773,610 gallons—less than one-half the amount used in Harrisburg. The receipts amount to $40,422.67. The total disbursements $39,213.65, which includes the payment of $20,000 on the bonded indebtedness. The receipts of this department are less than one-half those of the other. The cost of 1,000 gallons is one cent and nine mills. The number of service taps are only 3,934, with only 202 of them metered. The city has an area of ten square miles and only 413 fire hydrants are employed for fire protection—quite a contrast as compared with Harrisburg.

The remedy for Springfield may be found in reorganizing the department upon a business basis and administering its affairs in a manner similar to that in vogue at Harrisburg. I mean by that a more equitable division of the water rents and a larger use of meters. This, of course, would involve a new schedule of water rates. A year ago I was greatly surprised to find that the manufactories in the city, using water in large quantities were unmetered. I am still more surprised to find the condition unchanged to-day.

I know of no city this size following this custom. As soon as the introduction of meters can be effected it will be to the interest of not only the department, but to that of the domestic consumer. The department will save in stopping the waste of water and the consumer will discover that he will have to pay less water rent than formerly.

Washington Water Report.

The annual report of the commissioners of the District of Columbia, in dealing with the water supply, says:

"It has been found that the consumption of water between midnight and 4 a. m. is practically two-thirds of what it is during the daytime, and as the amount consumed during these hours can almost entirely be charged to waste, it is fair to consider that two-thirds of the amount used during the day is also waste, which would make at least three-fourths of the total consumption pure wastage. The

trouble becomes more accentuated during extremes of cold and warm weather. During warm weather the water is permitted to run for the purpose of having it somewhat cooler for drinking purposes, and in cold weather it is permitted to run to prevent freezing of pipes.

"During the severe storm and extreme cold spell of last February the pressure in the mains was so reduced that it was impossible to use the fire hydrants in certain sections of the city, and the Pennsylvania Railroad Company had great difficulty in obtaining enough water to keep its locomotives running. Should a similar cold spell occur this winter the condition of affairs would be even worse. The office is constantly in receipt of requests to have houses placed upon the pumping system, but it is practically impossible to extend that system further ,as all water that can be carried by the conduit is now being distributed, and every gallon which is taken by the pumps to supply the region served by them is so much withdrawn from the section of the city supplied by gravity, which portion is now the one that suffers the most. The introduction of any more water motors has been prohibited until matters are better. A house to house inspection affords but temporary relief, as the people drop back into old habits, and plumbing fixtures are again allowed to become leaky. Where the waste is willful a house to house inspection can render no relief whatever, as the waste may be resumed as soon as the inspector leaves the premises. The establishment of water meters is the only check upon willful waste."

Superintendent W. A. McFarland, in his report, states:

"The general arrangement of the water distribution system remains the same as was described in some detail in my report for 1898. The entire system must be rearranged if satisfactory water pressures at all points in the district are to be permanently secured. A project for this rearrangement, together with an approximate estimate of cost, has been submitted. The essential features of the project are the supplying by pumps of all territory lying at an elevation of more than 70 feet above mean tide level, and the laying of a considerable number of additional large trunk mains. If this project is carried out, pressures will result varying from a minimum of 30 pounds (70 feet) to a maximum of 60 pounds (140 feet) at curb level.

"As has so often been reported before, there can be no general and permanent relief except by a large increase in the amount of water brought into the district or by a decrease in the present enormous and unnecessary waste. The former will be effected on the completion and use of the Washington aqueduct extension now under construction, though even then, with the present distribution system, there are parts of the city where pressures will be insufficient for satisfactory service.

"The waste of water can be controlled only by such a general introduction of water meters as has been advocated by this department for a number of years past, and which is again strongly urged. There is no desire that the people should economize in the use of water. As has been demonstrated over and over again, both by personal inspection and the use of the Deacon meter, the trouble is caused by defective plumbing and willful waste. As matters are now, it is cheaper for a householder to leave a leaky fixture alone than to have it repaired.

The financial statement of Registrar George F. Green, in brief, is as follows:

Receipts:	
Water rents	$276,065 54
Water tax	57,160 66
Interest on tax	5,776 77
Water taps and stop cocks	6,327 00
Permits, etc	1,545 15
Total	$346,875 12
Expenditures:	
Salaries	$ 29,363 58
Contingent expenses	1,825 73
Refunded water rents	1,094 59
Pumping and pipe distribution	125,434 58
High service	89,009 69
Interest on bonds	30,035 00
	276,763 17
Less repayments	55,748 50
Total	$221,014 67

Report of Cambridge Department.

The water board of Cambridge, Mass., in their report for the year ended November 30, 1899, show the total cost of the works to date to be $5,649,015, and the net water debt, $2,606,516. The receipts on account of water rates for the year amounted to $302,569, a gain of $5,400 over the collections of 1898.

Two years ago the board decided to set meters to cover domestic consumption, at the option of the owners. About one hundred and fifty persons availed themselves of the opportunity, the meters applied for covering apartment houses for three or more families almost exclusively, the owners evidently having reason to believe a saving could be effected from schedule rates. The results show a loss in revenue of about 11 per cent. as compared with the collection at schedule rates.

Last spring the board ordered about one hundred and sixty meters set in the several business sections of the city. The revenue received from these meters for five months indicates an annual increase of 28½ per cent. as compared with the former charges at schedule rates.

Referring to the consumption of water the commissioners say:

"The daily average consumption of water in 1898 was 7,650,195 gallons, or 85.69 gallons for each inhabitant. In 1899 the daily average has been 7,897,453 gallons, or 87.16 gallons for each inhabitant. Inasmuch as the conduit from Stony Brook has been flowing at its utmost capacity into Fresh Pond, and the pond is now falling or barely holding its own, it would seem clear that the capacity of the conduit has been overestimated, and is much nearer 7,500,000 gallons than 8,500,000 gallons.

"In 1884 the daily average consumption for each inhabitant was 31 1-7 gallons or less than half the amount of consumption per capita in 1899. In 1890 the daily consumption per capita had risen to 62.35 gallons. From that point the advance has been as follows:

In 1891	64.71 gallons.
In 1892	66 gallons.
In 1893	74.50 gallons.
In 1894	69.19 gallons.
In 1895	71.65 gallons.
In 1896	75.90 gallons.
In 1897	76.46 gallons.
In 1898	85.69 gallons.
In 1899	87.16 gallons.

"These figures show clearly that some cause other than mere legitimate use of water is at work, and it cannot be doubted that the large increase in daily per capita consumption is due almost wholly to waste and leaks in pipes and water fixtures upon the premises of water takers. It is obvious that something must be done at once to stop this unnecessary waste, or a new pipe must be laid from Stony Brook to Fresh Pond.

"For some years the water board has advised the city council that the increased consumption would before long require the laying of an additional conduit from Stony Brook. This year it became evident that such conduit must be laid, without delay, or else that the consumption must be reduced by controlling leaks and waste on the premises of the water takers. The board, after careful investigation and consideration, extending over almost the entire fiscal year, finally concluded that the only reasonable course was the adoption of the meter system, which has been successfully and acceptably put into practice in Lowell, Worcester, Providence, Fall River, Pawtucket, Brockton, Taunton, Newton, Brookline, and many other cities, and so recommended to the city council.

"The daily average consumption per capita in these cities is about one-half of the consumption in Cambridge.

"Our recommendation was based on the following reasons, viz.:

"1. The board did not feel warranted in incurring an expense of between five and six hundred thousand dollars in laying a new conduit from Stony Brook to Fresh Pond while, under a meter system, waste being checked, the present conduit would furnish sufficient water for ten, and probably fifteen years to come, with the further probability that the saving in interest and sinking fund charges would be sufficient to pay for a new conduit when it should become necessary.

"2. If a new conduit should be laid it would be necessary for the city to pay each year from the tax levy all, or a large proportion, of the interest and sinking fund charges on the bonds which would have to be issued in order to obtain funds for the work. The board does not think it wise that the city should assume this unnecessary burden. The expense of the adoption of a meter system is comparatively small, and would not be a permanent burden to the city, as the water rates, without any substantial increase, would soon repay the necessary outlay, if a small rental were charged for the use of meters as is customary in other cities.

"We hope that early and favorable action will be taken by the city council authorizing the adoption of a meter system, so that the work can be commenced immediately and the present waste of water checked.

"As all our water has to be pumped, and each gallon of water represents a certain amount of coal consumed, the water takers who are careful in the use of water and guard against waste are, under our present system, contributing to pay for the expense incurred by the wasteful and the careless, which is unjust. Under the meter system this injustice would be remedied."

Water Works Items.

—The new water works system at Mobile, Ala., with double reservoirs, duplicate pumping machinery and ninety miles of pipe, giving an abundant supply of pure water from the hills, has been formally turned over to the city. The plant cost more than $500,000.

—Mayor Grant of Willimantic, Conn., says: "The report of the superintendent of water works show five hundred and thirty-five meters now in use. It will require about four hundred more to complete metering the entire system and I would advise the placing of new meters as soon as possible, as this is the only practical and satisfactory method of selling the city's water to consumers."

PAVING AND SEWERS.

Baltimore May Get "White Wings."

After a visit to New York and an inspection of the street cleaning system there, Mayor Hayes of Baltimore has come to the conclusion that his city needs a "white wings" brigade. It is said that he will soon organize a force of uniformed hand sweepers to make an assault on the mud kopjes of the Baltimore streets.

Indianapolis Street Cleaning and Sprinkling.

The total cost of street cleaning in Indianapolis, Ind., last year was $44,374.81, against $49,388.93 in 1898. Street sprinkling in 1899 cost $45,766, and in 1898, $32,-399. This year, for the first time, the cost of sprinkling will be paid from the general fund, an appropriation of $40,-000 having been made for the purpose. Heretofore the sprinkling expense has been assessed against abutting property.

Sewer System for San Francisco.

The people of San Francisco recently voted in favor of issuing $6,475,-000 of bonds for the construction of a comprehensive and adequate sewer system, seventeen new school houses and a modern hospital. Of the sum for which the city has decided to bond itself, $4,-600,000 will be used for the sewer system, $1,400,000 for the schools and $475,000 for the hospital. San Francisco has for years been in need of these improvements, especially the sewerage system.

Louisville Sewers and Paving.

City Engineer C. W. Parsons of Louisville, Ky., in his annual report to the board of public works, devotes a great deal of space to sewers. He says a new system of outfalls for drainage is badly needed in the northwestern and southwestern parts of the city. The extension of the boundaries makes this imperative. He would extend a sewer through what is known as "Happy Hollow" to Twentieth street. Cross drainage could then be made, and the problem in this locality would be solved. The approximate cost is $60,000. Another sewer is needed in the middle-west area, bounded by Bank and Twentieth street, Broadway and the river, the cost of which would approximate $20,000. Another outfall sewer is needed from Third street to the mouth of Paddy's run, and which would cost $350,000. These three sewers would effectually solve the drainage problem for years in the West End. In the East End the St. Louis cemetery sewer and the Enterprise sewer have solved the problem of drainage in the greater part. A sewer to relieve the drainage at Third and Magnolia avenue is needed and would cost about $4,000. More catch-basins would be needed with these sewers.

Mr. Parsons thinks asphalt is superior to anything else for street construction. Brick, he says, is excellent for alleys and for suburban streets.

During the year 1.218 miles of brick, 0.242 mile of macadam and 2.215 miles of asphalt streets have been built, making a total of 3.675 miles; 1.259 miles of asphalt and granite reconstructed; 2.029 miles of alleys were built. Repairs were made to 29.388 miles of streets and to 3.239 miles of alleys. During the year 5.437 miles of sewers and 4.050 miles of new sidewalks were built; 85 new catch basins were erected.

Williamsport Sewer Work.

Mayor Williams of Williamsport, Pa., in his annual message, refers to sewers as follows:

"This branch of our city's service has been well provided for. The disappearance of fever in certain parts of our city is the evidence of the benefits derived. I am told by the health officer that where fever was prevalent in certain parts of the city, since these locations have been sewered, fever has entirely disappeared. Seventy per cent. of the house sewers needed and required have been built and provided for under our sewer plan.

"There are now in use 31.97 miles of house sewer, 2.94 miles of storm sewer. Total number of house and storm, 34.91 miles.

"There has been appropriated since April 1st $37,500 for the building of sewers and an appropriation of $7,012.64 carried over from 1898 appropriation. The sewers authorized last year in the Seventh, Eleventh, Ninth, Eighth and First wards have only partly been laid. When these are completed the main part of the built-up portion will have been provided for. It will require several months this year to complete what has already been authorized to be built. We have $4,799.83 left in the treasury, which is sufficient to build what lateral sewers will be needed where pavements are to be laid."

Street Paving in Savannah.

In regard to street paving the annual message of Mayor Myers, of Savannah, Ga., says:

"The large expenditures for house drainage and opening streets have prevented other public improvements on an extensive scale. This must necessarily be the case during the coming year also. The magnitude of the house drainage work, and its vital importance as a health measure, justify the curtailing of other new work in order that it may be pressed to completion as speedily as possible. Street paving during the year was confined to a small area. Vitrified brick, which has met the expectations of its advocates, was used for paving St. Julian street from the market to Whitaker street, Congress street lane from Barnard to Drayton, and Wheaton street from Dixon, Mitchell & Co.'s mill to Waters road. The comparative cheapness of this material, the ease with which repairs are made, and the lessened cost of maintenance and of cleaning, are bringing it into use elsewhere to a greater extent year after year. For the coming year I would advocate a further use of it in Savannah. Gwinnett street should be paved to give easy access to the city lots, as well as to provide a fine roadway in that section of the city. I would also recommend, if the appropriation permits, the paving of West Broad street from the end of the present paving to the new railroad terminals, and the continuation of the Jefferson street paving to the city limits. As the traffic on the latter beyond the present granite blocks will not be very heavy, brick would answer all purposes."

Paving at Williamsport.

The matter of street paving at Williamsport, Pa., is treated by Mayor Williams, in his annual message, as follows:

"The city has made rapid progress within the last six years in street paving. This year only a small amount of pavement was laid, 3,334 square yards. George D. Snyder, city engineer, has furnished me the following figures for my report on streets and sewers:

PAVEMENTS NOW IN USE.

	Square yds.	Length in miles.
Asphalt pavement	...44,464	1.64
Brick pavement	.69,018	2.91
Macadam pavement	8,312	.59
Cobble stone	3,575	.28
Chestnut block	.18,155	.72
Total		.6.14

"The asphalt and brick pavements are in good condition. The macadam on Willow, Court and West streets with slight repairs will be satisfactory for the present. The cobble stone pavement on Penn street should receive the attention of councils and be repaved with brick as soon as funds can be raised, or dress the stone and repave the steep part with dressed stone and the balance with brick."

The mayor recommends the immediate pavement of a number of streets with asphalt and brick, the estimate cost of the work recommended being nearly $45,000.

Savannah Sewerage Work.

Mayor Myers, of Savannah, Ga., refers to sewerage improvement under way in his city in his annual message, as follows:

"The present administration found the house drainage system under construction in an unsatisfactory state. No outlet had been provided for the eastern portion of the city. While the plan contemplated putting the outlet at the foot of Reynolds street, no right of way had been secured and property owners in the vicinity seriously objected to the plan being carried out in this respect. It was further found that about one-half of the sewage of the city would be emptied in the river at the foot of West Broad street, passing in front of the entire city. This was considered highly objectionable by the health authorities and others. To meet the apparently well grounded objections it was found necessary to alter the plans in essential respects. Under the modified plan only about one-quarter of the sewage will be emptied at West Broad street and the remainder will be carried to the river at the mouth of the Bilbo canal, which is over a half-mile below the outlet originally contemplated.

"As you are aware, the contractors, Messrs. Miles & Bradt, without any previous notice, threw up their contract with the city. As the city had complied with all of its obligations to them, their unexpected refusal to carry on the work can only be attributed to the rapid advance in the price of materials. In view of the

decidedly unsatisfactory experience had with them and previous contractors, it was deemed best for the city to undertake the work itself. By prompt action the city was enable to begin in time to absorb the entire appropriation for the year, the results so far being all that could be desired. It is reasonable to expect that the system will be entirely completed by the city without the further intervention of contractors. An appropriation of $81,000 has been made for the present year. It is estimated that a further expenditure of $85,000 will be required to finish the system, which should be in readiness for use in its entirety by January, 1902."

Los Angeles Paving and Sewers.

In his annual message to the council, Mayor Eaton of Los Angeles, Cal., says:

"The brick pavements recommended by the city engineer are very good when the brick is of uniform hardness. The sample of this pavement which we have thus far had, made from brick of domestic manufacture, do not demonstrate our ability to produce a good paving brick. The objection found to monolithic asphalt streets in localities where the variation in temperature is great, does not apply in this climate.

"The condition of the sewer system in a city of this size and of such importance as a health and pleasure resort should be known at all times. The sewers are designed to make possible a visual inspection of every portion of them, by means of the manholes, and the same caution and regularity should be exercised in the inspection of sewers as that of surface improvements. A deposit is liable to occur even in a well-constructed sewer that will cause foul and dangerous gases to escape either through the manholes or through house drains. The practice of sealing the perforations in manhole covers is not in accord with the methods employed where sewer systems are properly and intelligently cared for, and should be discontinued here. Too much care cannot be exercised in the laying of sewers to the line and grade, as defects in these particulars cause deposits to form. The joints should be well filled with cement, so that the liquid sewage will not run out and leave the solids to putrify and cause offensive smells."

Protecting Street Pavements.

Director of Public Works Troup of New Haven, Conn., has requested the police department to see that the wide tire law adopted by the Connecticut legislature is observed. The act generally does not go into effect until 1902, but it provides in case vehicles are meanwhile retired that the new tire shall conform to the regulations. Mr. Troup thinks the enforcement of the act will greatly lengthen the life of city pavements. The act is as follows:

"Section 1. On and after the first day of July, 1902, all vehicles used upon the highways of this state in the transportation of merchandise shall be equipped with tires of width as follows: All vehicles having an iron axle two inches and one-half square, or an axle of equivalent capacity, shall be equipped with tires not less than five inches in width. All vehicles having an iron axle two inches square, or an axle of equivalent capacity, shall be equipped with tires not less than four inches in width. All vehicles having an iron axle one inch and three-quarters square, or an axle of equivalent capacity, shall be equipped with tires not less than three inches in width. All vehicles having an iron axle one inch and one-half square, or an axle of equivalent capacity, shall be equipped with tires not less than two and one-half inches in width.

"Sec. 2. All wheels requiring re-rimming or re-tiring on and after the passage of this act, used on the highways of this state, shall comply with the provisions of the preceding section.

"Sec. 3. Any person who shall violate any of the provisions of this act shall be fined not more than $100.

"Sec. 4. All acts or parts of acts inconsistent herewith are hereby repealed.

"Approved, June 20, 1899."

Street Improvements at Altoona.

Mayor Ellsworth F. Giles of Altoona, Pa., in his annual message to councils, says:

"I am glad to be able to state that all of the departments are in good working order. The highways department has been especially so. Twenty-five thousand feet of new sidewalks have been laid and eight thousand feet of curbing. Seven and one-half squares of street were macadamized and eighteen thousand seven hundred feet of sewer were laid, costing $11,367.36.

"I direct your attention to the bad condition of our paved streets. These streets cost the city two hundred and seventy-three thousand six hundred dollars and should be taken care of. In other cities a special fund is set aside for the repair of their paved streets; Harrisburg and other cities have entered into a ten-year contract with an asphalt phalt company to keep the asphalt streets in repair. Last year we appropriated eight hundred dollars for the repair of such streets. This amount did not repair more than one-third of the asphalt streets. I hope you will give this matter your careful consideration.

"I am much gratified at the large amount of sewers that have been laid during the past summer. You will find that every sewer constructed improves the health of the city. I hope our report next year will be in advance of the present one—which shows 18,100 feet—and would ask you to pass ordinances authorizing sewers to be constructed in the hill districts of the Fifth ward, where much sickness prevailed during the past summer."

Looking Toward Sewage Purification.

Although Detroit has an excellent sewerage system and a splendid health record, Mayor Maybury favors the introduction of a better method of sewage disposal. He says:

"The public sewer system of our city is something of which we may be proud, and for the territory embraced is well nigh perfect. The system of carrying effete matter by means of underground conduits and sewers will probably long remain a feature of our city, but the disposition of the contents of the sewer must undergo a change and that very soon. The time is near at hand when there will be a determined objection entered to the defiling of the river by the deposit therein daily of upwards of a hundred tons of excrement. It is now or soon must become a reproach upon the intelligence of the community that consents to discharge all of its sewage into a river of water originally pure, and which would remain so. The city of Chicago, at an expense of thirty-three millions of dollars, has deepened the bed of its shallow river, and proposes carrying the waste of the city away until it finally reaches the broad waters of the Mississippi. Against the pollution of the great river the dwellers of the Mississippi valley are already entering vigorous protest. It will not be necessary for us to undertake any such work, for, by adopting the sanitary and economic system pursued in Paris and in other cities of the old world, we will accomplish better results. I do not think it is at all too soon to have this important matter in mind in looking to the time when we shall be obliged to destroy or to convert to fertilizing uses that which is to-day poured into the body of our river. The present system of sewage and irrigation adopted in Berlin, originated twenty-five years ago. The first year in which house drains were properly established and connected was in 1875. At the expiration of twenty years thereafter every piece of property in Berlin, whether improved or not, and quite a number of properties of contiguous suburbs, had been connected with it. The influence upon the death rate by the adoption of this system has been something marvelous. A distinguished writer says that almost exactly in proportion to the ratio of increase in the connection of building properties with the sewer system has been the decrease on the death rate, more especially in deaths from typhus, which, from as high as fourteen a year to each thousand of population in 1872, ran down as low as .53 of 1 per cent in 1894. Is it not worth every possible consideration that money implies to have brought about a condition which saved thirteen lives annually in each thousand from death by a dreadful scourge, whose seat is almost uniformly the water supply or defective drainage of the city. While we are singularly free from contagious diseases and visitations such as I have described, let us use the ounce of prevention before we are called upon to use the pound of cure."

Mayor Maybury on Asphalt.

Mayor Maybury of Detroit has for some time bitterly opposed the construction of additional asphalt pavements in his city. In this matter he has been at loggerheads with the board of public works, the members of which, after very careful observations, pronounce asphalt the best paving material and insist upon the continuance of its use in Detroit. In view of the long wrangle that has ensued between the mayor and the board it was expected that the former would treat the subject rather gingerly in his annual message. Here is what the message says:

The ideal pavement is yet to be found. To secure a pavement that meets all the conditions of comfort, noise, wear and climate, is to solve the enigma of the ages, and to restore a lost art. For reliable information on the subject of pavement, it is well to look to the testimony of competent disinterested parties, whose investigations have been thorough, and whose conclusions may be relied on. In an exhaustive article written by Professor Daniel B. Leuton, of Perdue University, in which, after a full explanation of the constituent parts of sheet asphalt pavement, the comment on the various natural deposits found, description of the processes of mixing and laying, the assertion is made that "the very best samples of this pavement that have been laid since 1875, when it first came into use in the United States have not endured for more than ten years without developing the necessity for repair. Any failure on the part of the contractor to provide proper material, or to fail to understand the nature of the materials, or to completely control the process of manufacture, must, and does, result in a short-lived pavement." These words are quoted from the letter of Professor Leuton. The same authority then goes on to say that the influence of the quality of the different ingredients upon the life of the pavement is

certainly not well understood; that the pavement is really a sand pavement, cemented by asphaltum and by petroleum residiuum, with carbonate of lime, with any other inorganic dust as a filler for the same. An examination of the conditions of asphalt as laid in the city of Grand Rapids, in this state, and inspected in the summer last past, showed that every sheet of asphaltum pavement in that city was out of repair, according to the specifications, and also that all of the streets on which the guarantee had expired, are supposed to be kept in repair by an asphalt company, which is the contract for the present year (1899) at a fixed price, regardless of the amount of repairs, ranging from four to nine cents per square yard.

This contract appears to be similar to the annual contract now binding this city, through which $35,000 a year is expended, and 210,000 square yards of pavement is under inspection and care. The high authority before quoted, continuing, says, "the fact that asphalt pavement fails in spots, and not uniformly, seems to show how important an influence irregularities in heating and mixing may become upon the life of the pavement. Such defects as these heretofore mentioned may, perhaps, be minimized by a careful, experienced contractor, but there are still other defects which may be said to be inherent in the pavement, and which no degree of skill can eliminate, as long as sheet asphalt is made of the materials and according to the methods now in use." After showing the defects arising from extremes of temperature, and citing instances in various cities as examples, this most able and excellent reviewer closes his article as follows: "The defects thus far cited are of a kind that concerns the life of the pavement, and they may be sufficient to cause considerable doubt as to the durability of sheet asphalt as a paving material. The pavement has other defects, and is not more sanitary or healthy than wooden blocks. It is not surprising, therefore, that sheet asphalt has met with little favor in foreign cities, and that its use is becoming less popular in American cities which have tried it extensively, as the experience of many cities can testify." Certain it is that Detroit's experience fully upholds the conclusions of Professor Leuton. The fact that asphalt has been able to secure a foothold in a number of cities is doubtless due to the work of persistent promoters, all of whose expenses are paid by the taxpayer in the price exacted for the pavement. Detroit, at the beginning of the fiscal year, had 4,327,074 square yards of city street pavement, 11 1-3 per cent. of which —or, in round numbers, 477,640 square yards —was asphalt.

For 260,000 square yards of asphalt the city pays $35,000 for repairs on contracts, while $5,000 or more have been expended in the past year for repairs on other streets, on which guarantees have expired, and the remainder is still under guarantee. The average cost, under the repair contract, is about 16½ cents per year, and as a whole, on expired guaranteed streets, the average for the past year has been 10 or 12 cents. Let us turn our attention to other pavements. Here we find, according to the report of the board of public works, 3,850,000 square yards were kept in repair last year, including the entire resurfacing of 41,000 square yards, at an average cost of less than two cents per square yard per year. Facts like these are the basis of my opposition to further experimenting with asphalt. There have been better results from other kinds of pavement; and I would respectfully impress upon your honorable body the fact that for residence streets, cedar blocks, as now laid, or creosoted pine, or tamarack blocks, as laid in Indianapolis, block brick of best quality for our retail business or medium traffic streets, and granite or medina stone blocks for our heavy trucking streets, all with concreting foundation, seem to have given the greatest benefit at the most reasonable cost of both construction and repair. The reports of the board of public works show contracts for asphalt and repair surfacing only at $1.95 per square yard, while the cost of entire resurfacing of cedar block by the board of public works is given at 43 cents per square yard. These incontrovertible facts lead to their own conclusion.

It will be noticed that the mayor quotes at length from Professor Leuton, pedagogue, who holds that asphalt pavement is "not more sanitary or healthy than wooden block," and makes no reference whatever to such authorities as Nelson P. Lewis, George W. Tillson, E. B. Guthrie, George H. Benzenberg and a hundred or more others who have had the experience in street paving which entitles them to be quoted as authorities.

New Plan For Street Work.

City Engineer Claussen of St. Paul, Minn., has reported a plan for the consolidation of the street cleaning and repairing, garbage removal and street sprinkling work in his city. Heretofore the garbage and sprinkling work has been let out by contract and the service has been far from satisfactory. The city engineer's plan is to have all this work done by the city under the immediate direction of a superintendent to be appointed by him. Mr. Claussen's report, in part, follows:

A few cities, among them St. Paul, wash the asphalt-paved business district with a hydrant stream. This removes the fine dust from the asphalt and has proven very satisfactory, although rather expensive. I do not believe that the service can be improved upon. Considering the area of the city of St. Paul, its size being about three times that of such cities as Milwaukee and Toronto, and twice that of Pittsburg, Detroit and Kansas City, the cost of our total expense of street cleaning per capita is extremely low in comparison with other cities. It appears, however, that as far as our paved streets only are concerned, we are spending as much money for cleaning as do other important places, but our dirt streets, owing to insufficient funds, have not received the attention they should.

In St. Paul the cost of cleaning the asphalt streets for 1899 exceeded that for 1898 considerably, owing mainly to the increase in new pavements. During the year 1900, it is expected, the cost will exceed that of 1899, keeping pace with the improvement of streets, and increasing from year to year. Thus the fund remaining for the repair of dirt streets will be decreased year after year, unless the charter provision fixing a certain amount for maintenance of streets, etc., is changed. It would seem expedient, in order to increase the cleanliness of the streets, as well as the efficiency, and from the standpoint of economy, to agitate the paving of streets at every opportunity.

The pavements that are now in vogue in St. Paul, being brick, sandstone and asphalt, are very expensive, costing from $1.85 to $2.60 per square yard, and some durable pavement of good construction, but of decided reduction in cost, should be advocated. As such a pavement I would recommend macadam. We have first-class material for this close at hand. Macadam can be built for from fifty cents to $1 per square yard, and in my estimation will make a first-class street for certain thoroughfares in the outlying districts that are much trafficked.

The city of New Bedford, Mass., with forty-six miles of macadam streets, built its own roads at 40 cents per square yard. Kansas City has constructed sixty-five miles of macadam streets at an average cost of 70 cents per square yard. With the high-priced pavements, such as asphalt, brick and stone, the property owners cannot be expected, nor can they be induced, to pave the streets. Of late years our city has spent about $40,000 per annum for the repairing of dirt streets, $19,000 per annum for cleaning same, $8,000 per anum for the repair of about thirty miles of wooden block pavements. The bulk of the above amount for cleaning and repairing dirt streets is spent on the more important and heavy trafficked streets. The repairs on the wooden block pavement did not, and could not, be made to prolong the life of the pavement to any extent, they merely made the streets passable. I estimate that if the more important streets in the outlying districts and the thirty miles of wooden block pavement were replaced largely by macadam, and the balance with stone, brick or asphalt, the same amount of money as now spent, viz., $67,000, would secure to the city much cleaner and more efficient streets.

At the present time the city in carrying on the work of keeping the streets clean and in good repair is put to the expense of hiring by the day a good many single and double teams. During 1899, the engineering department has employed 8,300 double and 2,700 single teams, paying therefor at the rate of $3 per day per double team and $2.30 per day per single team. The total expense resulting therefrom amounted to above $30,000, constituting the principal item of expense in maintenance of streets.

If the city would undertake to run its own stables and hire the men as drivers the same service could be had for $20,000, thus saving $10,000 per year on the above item. My figures are based on the prices the city pays for labor at the present time, and on what it costs the St. Paul fire department to take care of their horses per head per year.

I consider identified with the matter of street cleaning and street repairs the sprinkling of streets and the disposal of garbage, refuse and ashes. In the proper execution of this work these various municipal functions are closely interwoven. The same teams can be used for various purposes. In our climate there would be a demand for teams during the summer months for the purpose of street cleaning and street sprinkling, street repairs, etc., while during the winter season the same teams could be employed for the removal of snow, ice, sanding of walks and removal of ashes. I am not prepared at this time to give an exact estimate of the number of teams that it would require to do all of the above work, but think from 100 to 120 would be sufficient. The above functions, as outlined, I should recommend to put under one management with a superintendent of streets and waste disposal at the head, this superintendent to have full charge of the department and be responsible for its conduct to the city engineer and to consult with the latter and to act as his assistant. The city engineer should have the right of appointment of the superintendent without any restrictions.

As the work has been done heretofore, it was divided up, garbage co...ection and street sprinkling being done by different contractors and street cleaning and repairs by the city direct. It was thus necessary to maintain separate plants and organizations. If all the work is done by the city advantages will be in the direction of organization and concentration, one division being able to assist the other in carrying out the work, as emergency may arise.

In order to meet the expenditures a general fund should be provided, this fund not to be a fixed amount year after year regardless of the growth of the city, and of prevailing prices of labor and material and other conditions, but based upon some self-adjusting flexible plan. The sprinkling, however, should be assessed at least partly against the abutting property. If no assessment whatever is made, but paid out of a general fund, the demand for sprinkling will be universal. For the year 1900 the following estimate prevails: Street sprinkling, $51,000; garbage and waste disposal, $25,000; street and sewer maintenance fund, $150,000; total, $226,000.

This would be the expense on the contract system. In case the city should undertake to furnish the service on the plan as above suggested I am of the opinion that a saving of at least $15,000 could be effected, and a much better service be given. In the above is not included the taking care of ashes. The expense of doing this I estimate at $15,000.

It has been decided to have Mr. Claussen's plan, as outlined above, provided for in the new city charter.

Swedish Engineer Here.

Mr. Karl Tingsten, city civil engineer of Stockholm, Sweden, was a caller at "City Government" office during the month. He visited the United States as a special commisisoner of his city government to investigate municipal affairs in this country, and was greatly interested in the many American public improvement works. Mr. Tingsten paid particular attention to the collection and disposal of garbage, which work he says is done better here than in his country. Another matter that attracted his special attention was the sweeping of streets by pick-up machines. He will recommend that Stockholm purchase and put in service a number of American machines for public work, including the pick-up street sweepers.

Syracuse Public Works Officials.

The new department of public works of Syracuse, N. Y., is made up as follows: James H. Meagher, commissioner; Russell R. Stuart, city engineer; John H. Moffett, superintendent bureau of water; Thomas Bishop, superintendent of bureau of parks; John O'Brien, superintendent bureau of street repairs, sewers and bridges; P. J. Enright, superintendent bureau of street cleaning; Erasmus Pellenz, fire marshal bureau of buildings.

DEPARTMENT OF INQUIRY

The Editor of "City Government" will undertake to furnish, through this department, replies to all inquiries pertaining to municipal affairs sent in by subscribers. The names of inquirers will not be published in any case.

Police Reports of Accidents.

Will you oblige me with a copy of an ordinance to require police officers to investigate and report street accidents to the legal department of the city?

Such an ordinance has lately been adopted by the Columbus, Ohio, council, and it reads as follows:

Section 1. Whenever any person is physically injured or any property is injured or destroyed by any accident occurring in any of the streets, avenues, alleys, parks or other public places of the city of Columbus, O., it shall be the duty of the police officer within whose district such accident shall have happened, and also of any detective who may be detailed by the proper authorities, to investigate such accident, to ascertain the same, name and residence of the person injured or owning the property injured, as well as the nature of the accident and the names and places of residence of all persons having knowledge of the accident and to make forthwith a report of the same to the chief of police.

Sec. 2. It shall be the duty of the chief of police, upon the receipt of the report provided for in section 1 of this ordinance, to immediately forward such report to the director of law for his further investigation.

Driven Well Water Supplies.

We are considering the practicability and advisability of establishing our own water works and securing the supply from driven or tubular wells. Can you give us the names of some cities that own their water works and use driven or tubular wells?

This inquiry comes from a city in New England where the water works are owned by a private company and where the supply is at present inadequate.

There are many cities in the United States that own their water works and use driven or tubular wells as sources of supply. Generally, the water secured from such sources is pure and wholesome, but when it is exposed to the light in open reservoirs the development of vegetable growth and its decomposition are rapid. To obviate this difficulty some cities have covered their reservoirs to keep out the light.

The borough of Brooklyn derives from 45,000,000 to 50,000,000 gallons of water daily, about one-half of its total consumption, from driven wells. Schenectady, N. Y., with a daily consumption of about 5,000,000 gallons, gets its supply from driven wells and the Mohawk river. Lowell, Mass., with a daily consumption of about 8,000,000 gallons, has taken its supply from driven wells since 1896; prior to that year the source of supply was the Merrimack river. Newark and Camden, N. J., have driven well supplies, and Paterson, in the same state, has just granted a franchise to a new company to put in a driven well system. The water for the East Side pumping station, Columbus, O., is taken from tubular wells. Dayton, O., gets its total supply of about 6,500,000 gallons from tubular wells, and Canton, O., is supplied from driven wells. In all of these cities, excepting Paterson, the water works are publicly owned.

If the city represented by the inquirer contemplates the construction of a driven well water works system it should first employ a competent civil engineer to make a careful survey of all local conditions and report thereon.

Liquor License Fees.

What are the liquor license fees in the leading eastern cities?

Liquor licenses are granted in most of the eastern cities under authority of state laws, and the fees are as follows:

New York—Retail liquor dealers, under the Raines law, are taxed as follows for licenses: In New York city, Borough of Manhattan, $800; Borough of Brooklyn, $650; other cities with a population in excess of 50,000, $500; cities with population between 10,000 and 50,000, $350; smaller cities, $300; villages with less than 5,000 inhabitants, $200; hamlets, $100. For sale of beverages not drank on premises, from $500 in New York city down to $50 in smallest places. Sale of beverages in restaurants, cars and steamers, $200

Massachusetts—In Boston the retail liquor license is $2,000 and the number of saloons is limited to 996. State law requires payment of license fee of $1,000 or more in all other cities which vote from year to year in favor of licensing saloons. For the sale of beer and wine only, without hard drinks, the maximum license fee is $250. For the sale of beverages not drank on premises, $300, and for the sale of bottled beer and wine, $150.

Connecticut—The retail liquor licenses range from $500 down to $100 as the municipalities decide. Very few municipalities take more than $200.

Rhode Island—Providence, $400; cities of from 6,000 to 15,000 population, $300; over 15,000 population, $350; municipalities of less than 6,000 population, $200.

Pennsylvania—The state taxes brewers, distillers, rectifiers and bottlers, but the license fees of saloons are fixed by the municipalities.

Maryland—All retail liquor licenses in all cities, $250.

Delaware—Retail liquor license fees in cities of 10,000 or more population, $300; smaller municipalities, $200.

New Jersey—No state law. The municipalities are in no way restricted and low licenses generally prevail.

Model Park Ordinance.

We desire to enact a set of ordinances the enforcement of which will prevent disorders of all kinds in our public parks. Can you refer us to any city where they have such ordinances in force?

Mr. John C. Olmsted, the well known landscape architect and authority on all questions pertaining to public parks, says the best ordinance he has read for the regulation of parks is that in force at Rochester, N. Y. The Rochester ordinance is printed in full below:

The Board of Park Commissioners of the city of Rochester do enact as follows:

Section 1. The terms "parks" used herein shall be construed to include all lands and waters under the control of the Board of Park Commissioners of the city of Rochester, except parkways, and the term "said Board" shall be construed to mean the Board of Park Commissioners of said city.

Section 2. The parks of the city of Rochester are for the benefit and pleasure of the public, and every person shall use said parks subject to the ordinances of said Board.

The roadways in the parks shall not be used by any vehicles except those employed for the purposes of pleasure; the rides and bridle paths shall be used only by persons on horseback or bicycles, and the walks shall be used exclusively by pedestrians, except that baby carriages and invalid chairs and children's carts and tricycles may be propelled thereon.

This section shall not apply to vehicles used by order of said Board.

The parks shall be closed from 11 o'clock p. m., until 5 o'clock a. m., during the summer season, and from 10 o'clock p. m., until 7 o'clock a. m., during the winter season; and no persons except employees of said Board on duty, or members of said Board, shall go into, or remain in said parks, while closed. The summer season shall be from April 1st, until November 15th, and the winter season shall be from November 15, until April 1st.

Section 3. No person shall commit any of the following acts within said parks:

1.—Commit any disorderly or immoral acts.
2.—Be intoxicated.
3.—Throw stones or missiles.
4.—Utter loud or indecent language.
5.—Play any game of cards or chance.
6.—Tell fortunes.
7.—Beg.
8.—Publicly solicit subscriptions.
9.—Drive or lead a horse not well broken.
10.—Allow any dog to run at large.
11.—Throw or drain offensive substances into any park waters.
12.—Bathe in park waters without having the body concealed by suitable covering extending from the knees to the shoulders.

Section 4. No person shall commit any of the following acts within said parks without the consent of said Board, or some duly authorized person:

1.—In any manner injure any tree, plant, grass, flower, fruit, turf or structure.
2.—Keep or offer anything for sale.
3.—Play any music.
4.—Post or display any sign, banner or advertisement.
5.—Deliver any public speech.
6.—Solicit passengers for any boat or vehicle for hire.
7.—Obstruct in any way a roadway or path.
8.—Discharge any firearm or fireworks or send up any balloon.
9.—Permit any animal except horses and dogs to enter said parks.
10.—Ride or dirve any animal or vehicle at a speed exceeding eight miles per hour. This shall not apply to the vehicles of the fire or police departments, ambulances, nor vehicles used by physicians from actually engaged in responding to emergency calls or to driving on the "speedway" in Genesee Valley Park.
11.—Hold any picnic at a place not designated by said Board for that purpose.
12.—Hold any public meeting or engage in any marching or driving as members of a military, political or other organization.
13.—Conduct any funeral procession nor vehicle containing the body of a deceased person.
14.—Build any fire.
15.—Write, paint or carve on any tree, bench or structure.
16.—Climb any tree, nor tie any horse to a tree.
17.—Enter any place upon which the words "No Admittance" shall be displayed.
18.—Play base ball, tennis, nor any other game at a place not designated by said Board for that purpose.
19.—Take ice from any park waters.
20.—Fish in any park waters.
21.—Bathe in any place not designated by said board for that puruose.
22.—Enter nor leave said parks except at the established ways of entrance and exit.
23.—Place or propel any boat or other craft upon park waters.
24.—Land from any boat at a place not designated by said Board for that purpose.
25.—Carry any flowers or shrubs, firearm, sling shot, axe, saw, shovel or spade, within the following parks, viz.: Genesee Valley park, Highland park, Seneca park east, and Seneca park west.
26.—Occupy in any way the slopes of the river banks.

27.—Violate the regulations of said Board relating to any building or place.

28.—Injure or unnecessarily disturb any fish, water fowl, birds or animals.

29.—Injure any notice posted by order of said Board.

Section 5. Pounds for temporarily restraining animals found running at large within said parks shall be established at such places as the superintendent of parks may designate.

All animals found running at large within said parks contrary to the ordinances of said Board, may be seized by any person and conducted to any one of such pounds. Upon the impounding of any animal within a park pound, it shall be the duty of the superintendent of parks forthwith to notify the keeper of the city pound, who shall at once take and dispose of such animal in the manner provided by the penal ordinance of the city of Rochester relating to the disposition of vagrant animals.

Section 6. Any violation of these ordinances shall be deemed a misdemeanor and shall be punishable by a fine of not less than five dollars nor more than one hundred dollars, and in default of the payment of such fine any person so convicted may be imprisoned in the Monroe county penitentiary for a period not exceeding thirty days, or by both such fine and imprisonment.

Section 7. The ordinances of said Board, passed January 26, 1891, and all ordinances inconsistent herewith are hereby repealed.

MAYOR MAYBURY ON MUNICIPAL OWNERSHIP.

Mayor William C. Maybury of Detroit devotes much space in his annual message to a discussion of the municipal ownership question. The recent attempt of the Pingree commission, acting under the McLeod law, to acquire control of the Detroit street railways for the city, makes the mayor's remarks on this subject doubly interesting. Mayor Maybury's message says:

What is the commonwealth? Every street, avenue, park and other space devoted to public use is the visible commonwealth. To the great majority of the people, their interest in the commonwealth is their only tangible wealth. The citizen's right to use his own property in such a way as to increase and multiply its value—if that may be not inconsistent with his neighbors' rights, is admitted, but if others are permitted to participate in the wealth that is his, or which is found in the use of his property, he should be compensated or his burdens made lighter in other directions.

One of the most vital questions of the day concerns that feature of the commonwealth involved in the operation of municipal franchises and whether they shall be owned, operated and controlled by private enterprise or directly administered by the city itself. Shall the use of public franchises, which contribute so completely to common need and enjoyment, be not only secured for municipal control, but shall the gain that always finds its way into private treasure be turned into the common treasury of the people? That individuals have grown wealthy out of the profits derived from operating public easements is not denied. Shall the city assume this duty and bring home to its people every comfort and economy possible, and turn into the pockets of the many owners that which finds its way into the pockets of the private owner now? To this I answer yes. In the minimum price of light, water, fuel, gas and every other general commodity and transit, whose pathway to our homes is through the use and occupancy of our common property, is found the greatest good of all. If private enterprise cannot manage public utilities with as great or greater economy than can be accomplished by city control, it has no superior claim upon this field of enterprise. In some cities of the old world a species of copartnership has been formed between cities and those operating franchises.

To such an extent has this principle been recognized that in the city of Berlin, companies that have franchise rights to operate public servitudes, after earning a reasonable interest upon the capital actually invested, are compelled to divide with the city the profit over and above that stipulated. The moneys thus turned into the public treasury serve to lighten the burdens of taxation, and he who contributes his mite to these earnings, becomes, at the same time, a beneficiary; in other words, he is thus permitted to share in the commonwealth. I am well aware of the claim made by those who oppose municipal ownership, that the vast increase of patronage will tend to corruption in the matter of public employment, and that these interests will be controlled by political rather than by business and economic considerations. That such danger exists will not be denied; but it is equally certain that safeguards can be applied to preclude the possibility of such influences controlling the public service. Admission to public service should depend upon fitness, capacity and honesty, and need not be made to depend upon any degree of political servitude. With fitness and honesty as prerequisites to employment, and inefficiency or neglect the only causes for removal, I would consider municipal ownership as a certain source of benefit.

The somewhat recent history of street railway franchises, and the efforts made to bring about, by indirection, municipal ownership and the purchase of existing franchises at fabulous prices, are too fresh in the minds of the members of your honorable body and of our citizens generally to require a detailed statement at this time. It is sufficient for me to say that I prefer, when municipal ownership takes place, the property shall be owned by the city, controlled and operated through its accredited representatives, the common council.

By unanimous consent of the common council I was permitted to submit, in writing, a communication laying down the proposition that the McLeod Act, under which it was sought to bring about municipal ownership, was unconstitutional. This contention was sustained. That the constitution of the

MAYOR WM. C. MAYBURY.

state should be so amended as to confer a larger share of local self-government upon the cities of the state, in the view taken by the overwhelming majority of our fellow citizens; and, indeed, in view of the absolutely and widely differing conditions which prevail in the rural districts of the state, and those which apply to populous localities, every possible freedom of action in the conduct of local affairs should be vested in the people, the legislature of the state reserving to itself only that limit of supervision which will insure the enforcement of all laws and regulations that are common to the citizen, whether he live in the city or country; at the same time releasing such localities to act with freedom in all matters of purely local concern and responsibility. The consent of the governed is the first essential to a republican form of government. How does it exist here when those who have no experience in a city's life and no knowledge of local needs enact the laws for local control? Constitutional revision can alone effect this result.

The condition of railway franchises of the city of Detroit is deplorable. With contracts expiring in eight or nine years, and others extending to a period of twenty-six years, while others are claimed to be indefinite, it becomes necessary that the city of Detroit should be vested with authority, after a confirmatory vote of the people, to buy, build, own, control and operate a system of street railways. The power to exercise this discretion is essential for, without it, the city is left helpless, with the power only to accept or reject proposals that come from the combination of private capital, or the capital of corporations. Every phase of ownership, in whole or in part, should be within the power of the city, so that that proposition might be accepted or that course of conduct pursued, which seems to be for the best interests of the people as a whole.

I speak with no spirit of personal or official hostility to the authorities now controlling and operating the street railways in the city or Detroit, for, in many respects, that control is excellent, and the service efficient; but I do insist that the rate charged our people is in excess of what is reasonable; and must lead to municipal ownership so soon as the first franchises expire. On the 25th day of July I submitted to the common council a communication in which I contended that the police power of the state was operative, had never been, and never could be relinquished by the common council to a street railway or any other corporation or person, and that, under that power, the common council had the right to establish a reasonable fare, all existing conditions being considered. The common council, upon my suggestion and advice, passed certain ordinances, amending existing ordinances and establishing a three-cent rate of fare for the transport of passengers on lines within the city of Detroit. Such a concession had been made to the people for a period of seven days some time prior thereto, while the statement made as to the earnings, when the sale of the property was in prospect, and the tremendous value of the franchises, placed at over nine millions, with eight millions and upwards for visible property, was in my own mind, a confession that the rate charged was exorbitant, and that, upon the basis of this concession, the people of the city were entitled to a better and lesser rate. Directly upon the passage of the ordinances, and before they could be put into effect, an injunction issued from the United States court for the eastern district of Michigan, enjoining the mayor, the corporation counsel and the city from proceeding further in the enforcement of the ordinances in question. With the permission of your honorable body, I was permitted to retain counsel, without expense to the city, to appear for me, and present the issue before the court to which the railway companies had appealed. The arguments of counsel in the case were learned and forceful, and the question raised of sufficient importance to enlist the careful study and consideration of the learned judge of the United States court, before whom the issue is now pending for decision. I am confident both of the legality, as I am sure of the justice of our contention, and await the final outcome with confidence. If it should so happen that my contention is not sustained, we shall at least have cleared up some important questions for our consideration when the time to make, if we ever do, bargains with corporations for the operation of municipal franchises again, and we shall be taught to place about them such safeguards as will protect, for all time, the great, and to the great majority, the only common heritage which the people possess. If my contention should fail then, as the time is near at hand when the city can be invested with authority to act, and as the franchises now held are to expire within a few years, we may well wait, even under the exorbitant rate which we are obliged to pay, and construct our own roads, making every dollar represent a dollar's value, and thereby provide for ourselves and for the generations that follow us, the cheapest, the best, the swiftest transportation given to any people of any city in the land.

It may be right to say in this connection that I believe no franchises should be granted, and that no municipal utility should be adopted by the city until there had been a direct submission to popular ballot. When the people have personally, and by their suffrages, indorsed any plan or purpose, they are willing to accept the consequences that follow—not otherwise.

While I am committed to municipal ownership, because I firmly believe the great trend of popular judgment runs in this direction, I have taken the position that the need was not so urgent, nor municipal ownership so desirable, that I was willing to swallow what appeared to be extortion, nor to pay immense sums to wipe out unexpired franchises to bring about even so laudable a purpose.

—Duncan W. Peck is the new commissioner of public safety of Syracuse, N. Y. His department includes the fire, police and health bureaus.

—Joseph Walters has been appointed commissioner of the new department of charities and corrections of Syracuse, N. Y.

—Joseph F. Saunders has succeeded George J. Metz as city clerk of Syracuse, N. Y.

—George W. Wilson has been elected director of public charities of Pittsburg, Pa., to succeed George Booth, deceased.

DAILY NEWSPAPER EDITORIAL COMMENT ON MUNICIPAL AFFAIRS.

Another Stab at Home Rule.

[Syracuse Telegram.]

A Kings county assemblyman has introduced a bill in the house to provide for annual reports by second and third class cities of their financial condition to establish a system of uniform accounts therein.

The bill provides that the financial report must be made within sixty days after the close of the city's fiscal year, on blanks and forms issued by the secretary of state, who is to receive such reports.

It is also provided in the bill that an officer who fails to make a report, as required by the act, shall be deemed guilty of a misdemeanor.

The milk in the cocoanut is discovered in this bill, through a provision which instructs the secretary of state to organize a bureau of municipal statistics, in charge of a head clerk to be known as "the statistician of municipal accounts."

If this bill passes it will be another deprivation of the right of home rule by cities, as it will provide that their finances must bear a state examination. The state examiners, of course, will be appointees of the republican state machine, which would have therefore direct supervision of the finances of the cities.

Competing Telephone System.

[Detroit Journal.]

No city is big enough for two permanent competing telephone systems, and that one of the local concerns should absorb the other was as inevitable from the beginning as sunrise and sunset. It is all very fine to theorize about competition, but competition in respect to telephone service must be as unsatisfactory to the customers as it is unprofitable to the companies. Telephone service is one of those natural monopolies, created by the very force of circumstances. There can be competition in telegraph service, in the express business, and with certain limitations in the railroad business, but competition in telephone service means a great deal of annoyance, if no increased expense to the user, if he tries to secure as efficient service through two companies as he could secure through one. There is a respectable part of this property that now represents only an investment in "dead horses," and it is too much to suppose that the company will simply charge off its value. In time the worthless property will all be paid for by the patrons of the company. Out of the consolidation, however, they will ultimately obtain many advantages that are not to be lost sight of. Business and professional men will no longer be taxed for two telephones.

The Code and Municipal Ownership.

[Ohio State Journal.]

The State Journal has already given its unqualified indorsement of the principles enunciated by the municipal code commission as fundemental in any thorough reform of our system of municipal government. We believe that reform is necessary. We favor uniform laws, the largest measure of local self-government, the nonpolitical ballot and the merit system of appointments. But we have endeavored to point out certain imperfections in the proposed code. Attention has been called to the fact that uniformity in legislation does not necessarily mean uniformity in administrative organization; that the attempt by statute to impose the same internal organization upon the cities of Cincinnati and Bucyrus is unwise, and that the multiplication of details in the code is a violation of the cardinal principle of local self-government. We have pointed out that the provisions for the nonpolitical ballot and the merit system have no proper place in a municipal code and should be embodied in separate bills, both because they do not logically belong in such a code and also because they may endanger the passage of a proper measure making good municipal government possible.

We have made these criticisms because we indorse those principles and desire to see them incorporated into the laws of the commonwealth. But there is one feature of the proposed code which we cannot indorse. The commission has not seen fit to enumerate it among the "cardinal features" of the measure, but it is in truth the most radical and far-reaching provision of the proposed code. It is nothing less than an attempt by legislation to widen the scope of governmental powers. Provision is made in the proposed code for the municipal ownership and operation of street railways and telephones. This is an attempt to grant to certain municipalities powers which have not yet come to be regarded as governmental functions. The question of municipal ownership of public utilities is practically a new one and the attempt to carry through a new and radical principle by tacking it on to other principles which have been examined and approved is, to say the least, impolitic. Many who heartily indorse the "cardinal features" of the proposed code would not hesitate to abandon all hope of municipal reform, if to get it they must accept what they regard as a new and dangerous theory—municipal ownership.

It is not fair to the people of Ohio to commit them to any such theory without the fullest discussion and the most careful examination of that theory. It is not fair to thousands of the friends of municipal reform who are opposed to municipal ownership to put them in a position where they must appear to oppose the principles for which they have long labored and contended. The revision should be revised.

Pollution of the Hudson.

[Albany Press-Knickerbocker.]

The Hudson river has been polluted for years by the sewage of different cities and villages along both banks. Although the people in the different communities along the noble stream have been affected by the pollution and frequent complaints made about the cause of contamination, no decisive steps to remedy the evil seem to have been taken.

Above us, the village of Lansingburgh is emptying its sewage into the river. This pollution is carried down stream some distance, until it commingles with the sewage which flows from Cohoes into the Mohawk river. Thus reinforced, the filth next runs to Troy, which pours its sewage into the river and then starts toward this city. On the way down, this collection of sewage is reinforced by Watervliet's filth. Our filtration plant is said to rid the water of most of the poisonous germs; but when a person with a delicate stomach thinks of the company the Albany water supply has been keeping, he is inclined to drink anything but aqua. Our friends across the river have good reason to complain about the pollution of the lordly Hudson. They have no filtration plant and what they get is warranted to contain a certain percentage of filth from Lansingburgh, Cohoes, Troy and Watervliet—not to mention a few places north of Lansingburgh.

Albanians are likewise sending their sewage down the river. At the present time the community below is complaining against the community further up stream, and at the same time is committing an offence similar to that which is causing the complaint.

Similar conditions prevail in other parts of the country. Hartford is seeking to enjoin New Britain, Conn., from emptying its sewage into a certain stream. At the same time Hartford is pouring her own sewage into the Connecticut river, to flow down to Middletown. Patterson, N. J., is very much exercised because the city of Summit lets its drainage pass into the Pasaic river. And while growling about the Summitonians' selfish conduct, Paterson continues to empty all its sewage into the same river, much to the disgust of the good people who dwell further down the river. Chicago's new drainage system is causing a world of trouble, on account of the complaints of the residents of Peoria and St. Louis. The filth from Chicago passes down the Illinois and Mississippi rivers to the objecting communities, which also seem to be offenders against communities lower down.

In several cases Connecticut courts have declared that the pollution of a stream with sewage in unlawful. The courts of this state should not be called upon to render a decision on a similar question. If each city or community along the banks of the Hudson would establish sewage farms, the problem would be easily solved.

LEAGUE OF AMERICAN MUNICIPALITIES

Proceedings in Book Form.

The proceedings of the Syracuse convention of the League of American Municipalities have been published in book form by the secretary. The book comprises 160 pages of closely printed matter and fully reports every action of the convention, besides giving in complete form all the papers read and the discussions thereof.

A feature that makes the book of especial value is the full report of the discussion of the question of municipal ownership. Never before was there such a comprehensive and intelligent discussion of this important subject as that which occurred at the Syracuse convention. Both sides of the question were argued with force by such authorities as Mayor Mac Vicar of Des Moines, Mayor Johnson of Denver, Mayor Tafel of Cincinnati, James Blake Cahoon of Elmira, Robert P. Porter of New York, M. A. Gemunder of Columbus and M. J. Francisco of Rutland, Vt.

Other features that lend value to the book are the able discussions of garbage collection and disposal, municipal charities, the special assessment system and the contract system. It is a book that should be carefully studied by all city officials.

Supported by the Press.

No national association ever received better support from the daily press of the country than that given to the League of American Municipalities. Not only are the annual meetings of the League reported fully and editorially commented upon by the daily newspapers throughout the country, but frequent editorial references are made to the every-day work of the organization. The daily newspapers are all warm supporters of the League, and editorials substantially like the following, which appeared recently in the Helena "Independent" are being published in many papers:

City government is the subject of greatest and most immediate concern to the urban population of the United States. It is more nearly related to the everyday life of the people than county, state or national government. It has most to do with the success of the business and the work of the men and women who compose the population. City government deals with police and fire protection, the water supply, street lighting, urban transportation, cleaning of streets, sewage, fire insurance rates, with minor offenses against the law, with disturbances of the peace, with the control of the unemployed and the poor who cannot work or will not work, and with innumerable other conditions of business and of men.

It may not be too strong a statement to allege that four-fifths of the expense of government is chargeable to the cities. The country districts require roads, bridges and schools, and aside from these items there is little attention they demand. Crime and pauperism are infrequent among the rural population; peace officers are not in demand, and country people seldom have recourse to the courts.

Several years ago the League of American Municipalities was formed for the purpose of studying the problems of city government, which are growing more complex as our cities grow. Annual meetings are held at which matters of city government are discussed by scientists and by municipal officers; statistics are collected, a bureau is maintained for the dissemination of literature and information upon the innumerable questions arising for solution in the course of a year by the government of our cities, large and small.

The present membership of the league is about 160, and includes cities in every state of the union. For Montana, Richard J. Fitzgerald, mayor of Great Falls, is vice president. The league is a non-political organization, is not designed to make war upon corporations, nor to enable corporations to get the mastery of cities; it was primarily organized for the collection of municipal statistics, and for deliberate study of the facts thus collected to the end that justice may be done all interests, and the best results achieved in the way of city government.

Work of the Iowa League.

The committee on legislation of the League of Iowa Municipalities held a meeting at Des Moines on Jan. 20 and completed the forms of several bills which have subsequently been introduced in the Iowa Legislature with the endorsement of the organization. It is probable that the bills will be passed, as the cities committee of the legislature assured the League's committee that they would report them favorably. The most important bill is one that provides a new special assessment law for all Iowa cities, under which paving improvements will be facilitated.

The bill relating to the method of levying special assessments against city property for paving is entitled "An Act to Amend Chapters 7, 8 and 14 of Title 5 and Grant Additional Powers to Cities." The thought of the committee in preparing the bill was to evolve a measure that would give to cities under the general incorporation law the same rights as enjoyed by cities under special charters, such as Dubuque, Davenport and Keokuk, which, for some reason, appear to have been the recipients of more elastic legislation with respect to assessing the cost of public improvements than cities organized under the general incorporation act. The first section was so drawn as to admit the general law cities to the exercise of powers conferred upon the special charter cities, one of which was the abrogation of the method of serving notice upon owners of property affected by assessments for public improvements. Cities like Council Bluffs are required by the law to post notices in conspicuous public places along the streets to be improved, while in Davenport and other special charter cities the law does not contemplate such notification. Again, the latter assess the cost of sewering and paving against property owned by the county and state, while the less favored cities do not.

One section of the bill provides that when any special tax or assessment is invalid, or illegal, or in case of deficiencies, "the council shall have power to correct the same by resolution or ordinance, and may reassess and relevy the same, as also the same amount to make up such deficiencies, with the same effect as if done at the proper time in the proper amount and in the proper manner provided by law or by the resolution or ordinance relating thereto; provided, however, that the aggregate of such tax or assessment so levied shall not exceed, inclusive of the sums paid under the original tax or assessment, the total contract price of such improvement."

The proposed bill also provides that all cities embraced in the act shall have the power to levy annually in addition to the taxes now authorized by law a special improvement tax not to exceed 5 mills on the dollar. This tax can be used only for the purpose of paying the difference between the contract price and the amount assessed against railways, street railways and abutting and adjacent property. The act provides the city may anticipate such tax and pledge the proceeds and issue in payment certificates or bonds based upon the tax.

The occasion for the new bill was the recent ruling by the Supreme Court of the United States in the case of Norwood versus Baker, which held that the assessment of property on the front foot basis is unconstitutional, in that it sometimes results in the confiscation of property, which is contrary to the provision of the constitution that provides that no person shall be deprived of property without just compensation. This decision rendered the old Iowa law invalid.

Among the other measures prepared by the committee is a bill relating to street railways, and conferring upon cities the power to regulate and govern the construction, maintenance and operation of these corporations and to regulate fares. The effect of the bill, if enacted into law, would be to place street railways on the same plane with water, electric light and gas companies.

A bill to harmonize section 615 with 658 of the code was indorsed. It provides for the amendment of the first named section by striking out that portion which makes the mayor a member of the council in cities of the first class.

A bill to authorize cities of the first class having a paid fire department to levy a tax for the creation and maintenance of such department, was submitted and discussed. In explanation of this bill the reduction of the basis of assessment from 40 to 25 per cent., it was stated had left many cities in the state with insufficient revenue to meet the expense of keeping up fire departments. The bill provides for a special levy not to exceed 5 mills on the dollar for the maintenance of a fire department. The bill was indorsed.

A bill requiring cities to loan out their waterworks fund at not less than 3 per cent. interest is among the measures drafted by the committee.

Another proposes to abolish separate treasurers for boards of park commissioners and public works and to place all funds of the city in charge of the city treasurer.

Another bill proposes to abolish the power of boards of supervisors to levy a tax for county road fund on property within cities and corporated towns, and to give to cities and towns power to levy the same tax and to control the expenditure of the same.

Ohio Municipal League Convention.

The third annual convention of the League of Ohio Municipalities was held in Dayton, January 16-18, inclusive.

Owing to the fact that the new municipal code was to come before the present legislature for consideration it was determined to devote the entire time to its close examination. Hence the most important sections, covering seventeen subjects, were placed on the program for discussion.

The proposed new code did not fare very well at the hands of its critics. While the 200 delegates thought it contained some good features, there were

others not to be tolerated, notably the reduction of the number of councilmen. Much was said about the omissions.

A small minority was oposed to the code as a whole. It was apparent, however, from the little discussion following the presentation of the papers, that the majority had not even read, much less studied, the new code, and, therefore, were unprepared to pass an intelligent opinion. Those who had studied it the most favored its adoption. Others who had given it attention said it was too imperfect to pass without being crippled by patchwork at the hands of the legislature and, therefore, they favored its recommittal to the commission with three members added, who would devote two years more to the work of revision.

The following important resolutions were passed:

Resolved, That this convention instructs its executive committee to have a bill prepared and presented to the legislature authorizing the councils of all villages and cities to appropriate from the general revenue fund of their municipal corporations a sufficient amount to pay the annual dues of any municipal association or league and to send and pay the expenses of at least one delegate to attend the annual meeting of said municipal association.

Resolved, further, That the executive committee of this league is further instructed to secure if possible the publication in pamphlet form of the different papers read and addresses made on the several subjects under consideration of this convention, the cost of said publication to be defrayed by the advertising rights thereto attached, any deficiency to be met out of the funds of the league.

That we request the authors of the different papers to render all possible assistance to said executive committee in discharging this duty.

That the secretary be instructed to make all arrangements to have an efficient stenographer present at the next annual session of this league to insure the preservation and publication not only of all the papers read, but of the impromptu remarks made in the discussions thereof.

The officers chosen for the ensuing year are:

President—J. R. Lindemuth, Dayton.

Vice President—S. J. Swartz, Columbus.

Secretary—Dr. S. O. Giffin, Columbus.

Treasurer—J. L. Orbison, Carthage.

Trustees—John A. Brake, Dayton; C. A. Boesch, Hamilton; M. D. Excell, Cleveland.

Cleveland was chosen as the place for the next meeting. The time will be determined by the executive committee.

Although the attendance was larger than at any previous meeting it did not equal the ability of the entertainment committee, of which Mayor Lindemuth was chairman. In his address of welcome the mayor presented each delegate and member of the press with an aluminum key, to be worn as a badge, bearing the words: "Ohio League of Municipalities, Dayton, O., Jan., 1900." This was the key to the city and the envelope containing it bore the following inscription:

The enclosed key will entitle you to the freedom of the city; to all entertainments provided for you; to free transportation on all city street railroads, except interurban, and to free telegraphic service with Postal-Telegraphic Cable Company and Western Union Company, during the convention of League of Ohio Municipalities.

J. R. LINDEMUTH Mayor.
Chairman Entertainment Committee.

The last day was devoted to sight seeing, including the National Soldiers' Home, Adam Schantz's water filtration plant—a delicious luncheon being served at the latter place—and the National Cash Register Co.'s plant. The banquet, given in the evening by the Dayton Club, was in every way an elegant and brilliant affair, at which Mayor Lindemuth presided as toastmaster.

Convention Notes.

—Mayor Jones, of Toledo, was the lion of the occasion.

—Mayor Lindemuth was the most popular city official.

—Mayor Orbison was the leader of "the boys" while the "Kid Mayor" was a close second.

—Kipp, of the "Press-Post," Wylie, of the "Dispatch" and Gortin, of the "Citizen," kept the Columbus people informed about the convention.

—Mr. A. C. Marshall, of the Dayton Club, was a most popular entertainer.

—Professor F. A. Brady, of Columbus, was the most popular entertainer from the Capital City.

—Mayor Schwartz, of Columbus, led the largest delegation present.

—L. B. Kauffman, director of public works, Columbus, came prepared to capture the next convention, but failed through the intrigue of some shrewd politicians.

—Everybody seemed to have a good word for "City Government."

—It was deemed unwise to take action either for or against the new code.

—The politician who tried to "knock out" Mayor Lindemuth was beaten in the first round.

—Delegate Excell of Cleveland was alone, but he carried off the prize.

—L. B. Kuffman was a shining mark for the Columbus papers. The charge that he went to the convention for the sole purpose of making political capital was too absurd to be taken seriously.

—Landlord Brun, of the Phillips, came in for his share of praise.

—The National Cash Register Company is the greatest public benefactor in South Dayton. Some remarked that it did more good than half a dozen churches.

—The Ironton delegation suggested that an organization among city clerks, to meet at the annual gathering of the League, would be helpful.

MAYOR PHELAN'S MESSAGE.

Mayor Phelan of San Francisco entered upon his third term with a new city charter, which makes him the real and only power of the city government. All the municipal departments are placed in the immediate charge of boards of commissioners, but the mayor is the responsible head of every branch, for the charter allows him to appoint and remove the commissioners at will. The legislative authority is vested in a board of supervisors, whose actions are all subject to the mayor's approval.

In his message to the supervisors Mayor Phelan is not at all backward in proclaiming his extraordinary powers, and does not hesitate to tell the local legislators what they must do in order to receive his approval. He says:

The mayor has become the executive and administrator and is responsible for the execution of the laws and for the wise and economical expenditure of public money through various boards and commissions. The commissioners are responsible to him and he is responsible to the people. The commissioners have to express in their public actions the policy for which the mayor stands, as exemplified in the platform of the party on which he was elected.

In another part of the message the mayor intimates that all a commissioner will have to do in order to lose his official head will be to antagonize the mayor in carrying out his ante-election pledges. The message has this to say of the functions of the legislative body:

The most important functions of the board of supervisors will be the fixing of the tax rate and the apportionment of funds, which when once apportoined are inviolable; the enactment of orders imposing licenses for police and revenue purposes, the equalization of assessments, the fixing of rates for water and artificial light, and the granting of franchises and privileges.

Mayor Phelan then points to the pledge in the democratic platform, on which he and a majority of the supervisors were elected, to limit the tax rate to one dollar on the $100, exclusive of the amounts necessary for the interest and sinking funds and maintenance of parks and squares. As to rates for water and light, the mayor says:

It is the duty of the supervisors in the month of February to fix water rates for consumers of water in San Francisco and also the rate for gas and electric lighting to be paid by private consumers and by the city for the illumination of streets and public buildings. The decisions of the courts in recent years have established this doctrine: That the companies are entitled to a "fair return upon the reasonable value of their property at the time it is being used for the public." They should receive a fair rate of interest on such investment so determined, their operating expenses and their taxes. It is, therefore, incumbent upon the board to institute a searching investigation to ascertain the value of the properties of the companies in use at the present time, and whether their operating expenses are reasonable and not extravagant. The charter confers upon the finance committee extraordinary powers as an inquisitorial body.

The pledge given by this board to the people is to allow the water company 5 per cent. interest on its investment, whose value should be first determined, and in the matter of the price of gas a rate not exceeding $1.35 per thousand cubic feet shall be charged. During the year the principle of fixing the gas rate by the board of supervisors has been for the first time established in this city, when a reduction was made from $1.75 to $1.50 per thousand. Competitive electric companies regulate in most districts the price of electric lighting.

The mayor's policy in regard to franchises and quasi-public corporations is clearly indicated in the following:

MAYOR JAMES D. PHELAN.

Your term of office will expire January 6, 1902, and I regret that the Geary street, Park and Ocean franchise does not expire until November 6, 1903, and, as no action can be taken on franchises under the charter until within one year of their expiration, this board, unfortunately, cannot dispose of that valuable property, which should belong to the city and be operated as a model railroad in the public interest. However, I desire by this reference to remind the public of their powers and duties in the premises.

A movement for the reduction of fares has been agitated, and the only apparent obstacle in the way is the objections of some of the poorer railroads, namely, the Union street and the San Francisco and San Mateo, but I recommend to this board a careful consideration of the subject. Other cities have low fares for workingmen and school children during certain hours of the day, and in building up a city it is more important to have low rates granted by these companies or fixed by the board of supervisors than to impose upon them a high license and franchise tax. But if for any reason low fares cannot be secured, the public revenue can be increased by the application of that excellent rule adopted by the assessor and approved by the supreme court in the case of the San Jose Gas Company vs. January. For if the profits of the companies are great and yield a higher rate of interest upon their actual investment than is just and reasonable, the stock and bonds of the company will sell for a higher price in the market and the market price of the stock and bonds is the basis upon

which the assessor makes his valuation of the franchise.

The same reasons apply to the telephone service, which should contribute more in license taxation to the city and concede to the people lower rates. There seems to be no authority under the charter to fix telephone rates, and therefore it is the duty of the board to see that the companies pay taxes in proportion to the value of their property. The whole spirit of taxation is not to oppress industry, but to distribute the burdens of government equally. It is notorious that the large corporations in the past have evaded their just contribution to the municipal revenues.

The change in the government is in the nature of a revolution. The administration is charged with the duty by the people of driving out old abuses and establishing the government upon a business basis.

Mayor Phelan says the board of public works is charged with the duty of employing an efficient engineer "with the great purpose in view of providing, first, a water supply; secondly, a public lighting plant, and afterward other public utilities." He says the board of supervisors must procure plans and estimates for such public utilities and "at as early a date as they deem best for the interests of the city, shall enter into negotiations for the permanent acquisition of such utilities as they may regard most important to be first acquired, and to submit the same to the people at a special election; but before providing for original construction or condemnation of public utilities, the supervisors must consider offers for the sale of existing utilities in order that the electors shall have the benefit of acquiring the same, if they so prefer, as an alternative proposition."

"The police department," declares the mayor, "will be reorganized and will be more accountable to the people than in the past. One of the reasons which gave rise to the charter movement was, as is well known, the perpetual tenure of office enjoyed by the police commissioners and the appointing power possessed by the governor; hence, the police were independent of the people. Chinatown, where prostitution and gambling in violation of law can only exist with the connivance of the police, has been a field of corruption, demoralizing to the department. It exercises as malign an influence over the police as did the quasi-public corporations over the supervisors in the past; but as the city found men to withstand the blandishments of the corporations, so must we find men who will do their duty in Chinatown. Public gambling is a great evil leading to poverty, disgrace, defalcation and death, which the records of this city abundantly prove, and its practice should be discountenanced and suppressed. The police should detect crime and punish offenders for their salaries, and not for special rewards."

ENGLISH GARBAGE DISPOSAL SYSTEMS

Health Commissioner Norton of Minneapolis, Minn, who was directed by the city council to investigate the garbage disposal systems of Great Britain, has submitted his report. He received answers to his queries from more than a score of cities, and with the aid of facts obtained from other sources, he has been able to learn in more or less detail the system in use in thirty-five different cities of the United Kingdom. The facts show that crematories in that country years ago passed the experimental stage; that they are in use in nearly every city of consequence, and in every case proved successful. The few cities that now have no crematories are in almost every instance either contemplating such a step or already committed to it.

All the crematories in use burn every kind of city refuse, some of them even burn night soil without creating a nuisance, and with the use of no other fuel than the garbage itself. Practically all have a steam blast to augment the draught, and are equipped with boilers and machinery for generating power for utilizing the residium from the furnaces or for electric lighting or other municipal purposes. Cost of cremation is reported as all the way from 12 cents to 50 cents a ton. The capacity per cell varies from five to eight tons per twenty-four hours, and the cost of construction is from $800 a cell up, exclusive of the buildings and chimney.

As to methods of collecting city refuse, the English cities are united in the opinion that there is no other way than for the city to do the work itself. Any that have ever used the contract system have given it up for that of city control. Refuse is invariably collected in wooden carts and carried to central depots, where it is burned or prepared for shipment into the country. The depots are located within the city limits and along the wharves, as well as in the outskirts. The larger cities have from three to five plants. It is the general rule to burn only the garbage that cannot be disposed of as fertilizer.

PUBLIC REGULATION OF THE MILK SUPPLY.

By Ernest Wende, M. D., Health Commissioner, Buffalo, N. Y.

Were an apology necessary for limiting our inquiry to the supervision and protection exercised by municipal and state authorities over the dairy interests and milk business, sufficient excuse would be found in the mortality tables of the various health departments of cities, showing clearly that early infant mortality depends largely upon milk as a doubtful commodity. The importance of this subject is much greater than is commonly realized, for the mortality rate of every municipality is largely dependant upon the ratio of its infant mortality. Recently this fact has been more than emphasized in that these tables show encouragement in an unusual decrease in the death rates of several large cities.

The nursing period is the most critical time in the life of an infant, and that passed, its chances for further existence are extremely favorable. Yet milk is reputed to be a perfect and complete food. Nature has provided it for the young of the mammalia, and her choice might be trusted were it not for the insanitary and inhuman conditions which too frequently prevail at the dairy of the producer, at the milk house of the dealer, and at the home of the consumer.

Too frequently, to impute the misfortunes to the agency of others, these centres of infection are carelessly sought for and overlooked by the political and incompetent health official. Too frequently, the greedy and dishonest vendor, for keeping properties or to purify it in some mysterious way, adds a preservative or employs a disinfectant which act as an irritant or poison to the baby.

To ascertain the significance attached to this serious and momentous theme, and, moreover, with a desire to become better acquainted with the important details which govern the milk traffic existing in other cities, a circular letter was caused to be mailed to the health authorities representing the one hundred largest cities in the United States. The question asked was: "What supervision and protection is exercised by municipal and state authorities over the dairy interests and milk business in your city, and what is its scope?"

To this inquiry, forty-nine replies were received, which ran the entire gamet. Nine exercised no municipal control, five possessed a partial jurisdiction, while the remainder varied from an inefficient administration to the severest restrictions and regulations.

While milk is the food of the nursery par excellence, and constitutes a large portion of the dietary of young children and those of feeble digestion, it is, likewise, a recognized fact that, like no other article of food, it enjoys the heinous tendency of becoming unclean, infected, and dangerous, a defilement which occurs most speedily. There was no difference of opinion concerning this proverbial conclusion, and in the larger municipalities especially, more stringent and comprehensive measures are annually adopted, with a view of abolishing many of the conditions under which diseases had previously flourished attributable to this source.

All of our correspondents who touched upon this proposition are agreed that the mortality of infants under five years of age, and principally of those under one year, is being gradually reduced in proportion as the quality of the milk improves.

Alterations in quantity and quality were reviewed by several from a practical aspect, and, naturally, the conditions which entered were many, some of them controlable, others not. Those which may be regulated are production, storage, transportation, and delivery, while those beyond control are mainly due to the vicissitudes of the seasons, and, frequently, a need of proper jurisdiction over outlying districts.

In Buffalo, a rigid supervision over the milk supply for the past six years has reduced the infantile mortality to such an extent, during the nursing period, as to be marvelous in comparison with previous rates, as will be observed from the following table:

Year.	Total Deaths.	Under one year.	One to two.	Two to three.	Three to four.	Four to five.	Total under five.
1890	5,024	1,630	386	132	86	71	2,305
1891	6,001	1,786	403	198	134	88	2,609
1892	5,697	1,699	441	190	152	77	2,559
1893	5,711	1,760	432	174	119	116	2,601
1894	5,280	1,454	455	161	109	70	2,249
1895	4,684	1,177	429	168	112	85	1,971
1896	4,452	1,072	394	160	102	65	1,793
1897	4,475	1,044	315	139	100	45	1,643
1898	4,533	1,130	263	92	54	31	1,570

The laws of the state of New York require all births to be reported to the bureau of vital statistics of the department of health, which gives an excellent opportunity to impart information to mothers at a time when it is mostly needed. Accordingly, the Buffalo bureau of vital statistics causes a circular of instruction, on the care of infants, to be mailed to each household at the beginning of the heated period. That the result is marvelous is indicated by the table of mortality statistics submitted, as the greatest decrease is noted during the nursing period.

In 1890, out of a total of 5,024 deaths in Buffalo, 2,305 were under five years of age. The births of Buffalo number about 10,000 annually, yet, in 1898, there were only 1,570 deaths of children under five years, out of a total of 4,533 deaths of all ages. The continuous and marked decrease of infant mortality dates from the

time these circulars were first distributed. In cholera infantum alone, the decrease in the death rate of children was over 100 per cent. Among the agents which materially assisted in the reduction was an ordinance prohibiting the sale of long-tubed nursing bottles.

We possess evidence which demonstrates the potentialities for evil of an unwholesome milk supply. This evil is unbounded in its dissemination of the virus of tuberculosis, diphtheria, scarlet and typhoid fevers, in the generation of toxic bacterial products giving rise to acute diarrhoea, cholera infantum, and tyrotoxicon poisoning, and in the production of inanition, malnutrition, and marasmus.

Numerous records of such epidemics are at hand, in which the spread of infection was definitely traced to the dairy and its surroundings, contracted from the mouth, nose, throat, skin, and discharges of those in charge, and recently convalescent or scarcely recovered.

Thus the materies morbi, which is very tenacious of life, clings to the hands and clothes of the careless, who, in turn, pollute the water, and then cause it to be lodged in the cracks, crevices, seams and inequalities of the walls, floors, and surfaces of the insanitary milk house, storage box, cans, and bottles, there to thrive and multiply for the slaughter of the innocent.

Notable among these outbreaks, we may mention the ninety-five described and tabulated by Hart of England, of which forty-eight were typhoid fever, thirty-two scarlet fever and fifteen diphtheria, and the ninety collected and tabulated by Freeman of this country, of which fifty-three were typhoid fever, twenty-six scarlet fever and eleven diphtheria.

To confirm, as well as for the purpose of supplementing these numerous instances of the spread of infection by an improper milk supply, two outbreaks, parallel in relationship, one of typhoid and one of scarlet fever, that occurred in the city of Buffalo since 1893, may be profitably cited.

It was in the fall of this year that we encountered our first visitation of a contagious disease traceable to and rapidly extending through the instrumentality of a milk dealer's route. Here, likewise, the seeds of infection were brought to the persons unfortunate enough to come in contact with the contaminated milk from a remote centre, and, at the first opportunity, these individuals infected others and so the evil spread.

It was casually observed that a group of scarlet fever cases prevailed in such association that it was seemingly apparent, according to every reasonable inference, that they all depended upon a like source of infection. An investigation was at once instituted, which revealed the fact that fifty-seven children of twenty-six separate and distinct families had succumbed to scarlet fever, all of whom had procured their milk from the same milkman, whose milk house, equipment, help and family were all scrutinized, with the result of finding two cases in his immediate household.

Inasmuch as nothing could be discovered of an insanitary or causative nature with his own outfit, environment and mode of handling, the inquiry was further carried back to the source of milk production—the dairy farm—with the sequence of detecting two cases of scarlet fever, in the desquamating period, occuring respectively in a child aged seven and in a young man of nineteen. The latter, who still had large flakes of cuticle pealing from the extremeties, must be credited with his share of the misfortune, for devastation followed in the wake of his labor. It was he, before being thoroughly restored, ignorant of the danger caused by the stray particles of shed epidemis thickly peopled with the infective bacteria or their spores, that did the milking, washed the cans, and transported the commodity to the depot for shipment to be received and distributed to the unsuspicious consumer by the city milk dealer.

Here, then, the first demonstrable milk epidemic of scarlet fever in our midst showed a typical case. The interesting and subjunctive corollary deduced from the research is convincing:

First—That all the facts, brought out by a persistent investigation of the epidemic, pointed to the milk supply.

Second—That the cases appeared almost simultaneously, extending rapidly, and attacking especially those who partook freely of the lacteal fluid.

Third—That only the homes located on a certain milk route were invaded, and those frequently having the best hygienic environments.

Fourth—That, happily, the wane of the epidemic was equally abrupt following the discontinuance of the mischievous product.

Briefly, this is the unvarnished tale concerning our first recognized outbreak of scarlet fever caused by a contagious poison emanating from a doubtful milk supply. However, it shed much light upon the milk dealers' route as a channel for the dissemination of disease, and served as a stimulas, as well, to yet more carefully scrutinize and guard the milk traffic. The most practical result of this inquiry was the devising and maintaining of a register of contagious diseases in connection with their occurrence upon these milk routes.

It means a system, feasible for daily surveillance, and effective in the protection against frequent infection of the milk consuming denizens. Such a register is worthy of more than a passing notice. It stands as a silent guardian, watchful of the integrity of milk, the health and happiness of the home. No department of health can be considered efficient, much less complete, without it. This armementarium, when once adopted will be the last to be dispensed with, for few things accomplish so much that are apparently so simple. Chemical analysis has a place; bacteriological tests another; but the register takes the place of all, in its importance and possibilities. We may fairly attribute to this innovation the detection of subsequent epidemics in their incipiency. It made immediate investigation and the prevention of the further spread possible.

This invention, which had its birth in the department of health of Buffalo, immediately furnishes a ready and an effectual means for the detection of infection on milk dealers' routes. Appreciating its merits, it is posted daily, and thus the healthfulness of the families supplied by each individual dealer is constantly watched. As soon as it appears that, on the route of any milk dealer, infectious disease exists, an immediate investigation is made into every detail of his business, source of supply, and the conditions existing there, and his route is suspended until it can be made absolute that his is not the source of danger.

On September 4, 1894, we were assured, by the records of the register, that nineteen cases of typhoid fever had developed with wonderful rapidity in families served by a milkman living in a sparsely settled section of the northern portion of the city. The health department forthwith instituted an investigation which showed the startling result that the wife of the milkman, surrounded by unfavorable conditions, was ill with the fever; however, on the borderland of recovery. She was still being nursed and cared for by the the husband who also was handling the milk and washing the cans in a most objectionable manner with water procured from an old cistern that had during the preceding year been the subject of several sanitary complaints.

Another powerful factor that made the transmission of the disease through the medium of the milk imminently capable was the fact that the patient was not isolated, but cooped up in a small stuffy chamber joining the kitchen in direct communication with the milk room. It is hardly necessary to state that the sale of the milk was interdicted; the cistern ordered abandoned, disinfected and filled, and everything pertaining to the dairy and the premises in general placed in a sanitary condition. By this and other procedures the spread of the disease was checked, no further cases occurring upon the route.

In Buffalo, since these methods have been in vogue, there has been a decided fall in the mortality ratio of cholera infantum, scarlet fever, diphtheria and typhoid fever, in spite of her enormous increase in population. The accompanying table is self-explanatory:

Deaths from Diseases which are Frequently Milk-born.

Year.	Population.	Cholera Infantum.	Scarlet Fever.	Diphtheria.	Typhoid Fever.
1890	260,000	348	21	111	105
1891	255,664	381	67	165	129
1892	285,000	376	84	177	98
1893	300,000	568	133	149	112
1894	315,000	417	85	214	185
1895	335,709	372	22	242	98
1896	350,000	321	14	249	68
1897	360,000	277	21	198	69
1898	370,000	254	13	85	98

Every American, realizing the splendid aspirations and the possibilities of the sanitarian, should take an interest in milk legislation, for the probable results of laws obtained from the state giving plenary powers to the health authorities in matters of municipal sanitation would be its eventual adoption by every civilized nation. It is of vital importance.

For some time, legislation affecting agricultural interests has been jealously guarded by the farmer. Especially is this the case with such measures as relate to dairy products. Too much attention is paid to the commercial side of the question, and, judging from the reports received, this appears to have influenced some of the courts, as indicated by their rulings. It seems almost incredible that pecuniary loss should be given preference in the consideration of a question where human life is in the balance. If existing laws are inadequate or inefficient, they should be immediately remedied. If, then, they are not properly enforced, the blame must rest with health authorities who can appeal any case and carry it to the highest court without loss to themselves, if they deem the case improperly disposed of by any of the trial courts.

The question of the jurisdiction of local authorities has been variously considered and variously decided. However, the prevailing views appear to be that the jurisdiction should be confined within the limits where the consumer resides or the consumption takes place.

Some states have no dairy laws, and, even where these do exist, their enforcement under state supervision is usually unsatisfactory. Each city can be better trusted to more zealously look after the health of its own inhabitants than if taken care of by officials whose interests are divided and whose duties exceed physical possibilities.

The District of Columbia exercises supervision over the dairy interests as far beyond its confines as its market extends, and, apparently, this authority has never been questioned. Kansas City and several other cities, from which we have reports, do likewise.

In some instances the expense is borne by the city ordering the inspection, while in others a fee is charged from the proprietor of the dairy so inspected, and the license granted is for a specific period. Should conditions arise rendering it desirable or necessary to prevent the sale of milk from any dairy, the certificate, license orp ermit can be revoked at any time.

No person should be permitted to ship milk into any city without a milk importers' permit, which should only be issued after a careful inspection of the premises and cattle. Before a milk importers' permit is issued, a written application should be filed with the board of health of the city where it is intended to ship the commodity, such application giving a detailed statement—on blanks furnished for the purpose—of the location and condition of the premises, barns, stables, pastures, food, water supply, number of cows, and a sworn statement from a legally qualified veterinarian as to the condition of the herds. The application should also state facilities and method of caring for the milk until time of shipment, manner of transportation, and city milk vender to whom milk is consigned.

Every municipality should inaugurate a code of rules and regulations for the thorough and systematic inspection of all dairies and cow-sheds. The supervision should be rigid, and performed by an adequate and capable corps of inspectors. All places where milk is sold as the principal business, either over the counter or from vehicles, should be regarded as dairies; all places where milk isproduced should be regarded as dairy farms.

Before granting a permit to engage in the business, the dairy and the premises in all its quarters should be thoroughly inspected to sufficiently insure a freedom from all vicious and insanitary conditions, with the ultimate object of affording ample protection to the milk consuming denizens against the frequent infection of milk born diseases. It is much easier to refuse a license before all specified requirements are complied with than to enforce a compliance thereafter.

When a building has been properly constructed and equipped for the event, and the dealer made familiar with the imperative necessities for its continuance, it is reasonable to assume that there will be less friction than if he received his instructions bit by bit and under easy sail. Nevertheless, rigid and frequent inspections at irregular intervals are necessary, to guard against any negligence or laxity. Any wilful violation of the prescribed rules should be met by a revocation of the license, and such other penalty as the case demands.

Of the transmission of tuberculosis by milk, or the degree to which the milk of tuberculous cows is fit for consumption, there is some honest difference of opinion. Some hold that it is only infective when it comes from a tuberculous udder. In view of the practical difficulties in the way of deciding whether the udder disease is tuberculous or not, it is advisable to destroy the milk of any cow with any suspicious affection of that part. It is also safer not to use the milk of a tuberculous cow, even when no udder disease can be found.

The department of health of the city of Buffalo, probably not exactly in deference to its state law, which requires a compensation for tuberculous animals destroyed, directs all producers to furnish certificates of inspection by a competent veterinary surgeon, specifying the physical examination and tuberculin test of their herds. Naturally, this at once raised the question as to who should pay for such inspections and the cost of animals destroyed. Likewise the point that the city could exercise no jurisdiction beyond its limits. The question of jurisdiction was not entertained for a moment, but promptly disposed of by ruling that the sale of milk from cows not capable of showing a clean bill of health would be prohibited. The dairymen soon discovered that it was much easier to secure the required certificate than to contest a vexed question, which they would lose eventually. In the city of New York the same proposition has been handled in a similar maner.

Generally speaking, transportation of milk from dairies to cities is defective. The milk should be transported only in cars especially constructed for the purpose, to permit of speedy and frequent cleansing, and equipped with facilities for refrigeration. Likewise, protection from the sun and whether at way stations, with refrigeration during the heated term, should be insisted upon. The correction of these objectionable features lies largely with the railroad companies, and unless strenuous and persistent efforts are made by shippers and consignees, there is little likelihood of improvement.

Before filling the cans for shipment, it is essential to scald and thoroughly cleanse them, and the milk should be carefully strained, aerated, and cooled to 50 degrees Fahr. or lower, before being taken to railroad platforms. The dealer should not fail to scald and thoroughly clease the empty cans before returning them to the farmer. Neglect in this matter cannot be too strongly condemned. In many instances a disgusting condition of filth and sourness will be found in empty cans examined while in return transit, and it is not surprising that almost incredible numbers of bacteria are thus generated in these cans, and only killed by live steam or boiling. This should be regulated by law.

No milk intended for sale should be stored, cooled or mixed in that portion of a building used for stabling or for storing manure, or in any room used, wholly or in part, for domestic or sleeping purposes. All rooms used for cooling, storing or mixing milk should be provided with tight walls and floors made from a non-absorbent material, and kept scrupulously clean. They should be equipped with proper appliances for washing and sterilizing all utensils employed in handling. No urinal, water closet or privy should be located in or near such rooms, or so situated as to pollute the atmosphere of these compartments, and it goes without saying that all plumbing should be strictly sanitary.

With the best efforts, it is impossible for some dealers in large cities to deliver milk to the consumer before it has attained the age of twenty-four to thirty-six hours. Except during the winter temperature, this naturally brings many attending evils. The evils of over aged, non-protected milk suggests the early adoption, during the summer months, of making it mandatory that milk cans should be properly labeled at point of shipment, with date, verified by railroad station agent, and none permitted to be sold in the city over twenty-eight hours' old, and then only when protected by refrigeration both in transit and in storage. Railroads are slow, on account of expense, to adopt cold storage protection in transit, and until this can be accomplished it would be well to interdict, during the hot season, all milk brought from too distant points.

Age labels, refrigeration and limitation of haul are cogent factors in milk protection, and no system is complete without supervision in these lines.

As a means of identifying milk dealers and their actions while delivering, it is essential that each wagon should properly and conspicuously display upon each side the license number, and in the case of peddlers from cans carried by hand, the number should be properly shown on the can.

In many towns, a large percentage of milk is served in glass jars and bottles, a plan which we acknowledge possesses in some respects advantages to both dairyman and families so supplied. However, there exists a most serious objection to this method. While convenience and facility of access are its only recommendations, it is altogether out-weighed by the inevitable and terrible risk of the susceptibility of milk as a medium for the transmission of infection. Milk is a common article of food for invalid and convalescents, therefore, when these bottles are taken into the sick room and there contaminated with the germs of disease, if not boiled or thoroughly sterlized, become the means of spreading the mischief indefinitely. Many obscure cases doubtless have originated in this manner. To properly sterilize bottles involves a serious loss from breakage, and it is almost safe to assume that glass bottles are seldom placed in water of sufficiently high temperature to destroy disease germs. The temptation also presents itself to milk peddlers to refill bottles on their wagons. The harm done through such acts is incalculable.

An ordinance prohibits bottle delivery of milk to houses placarded for infectious disease, in Buffalo, and a severe penalty is placed upon refilling bottles at any other place than the dairy.

In conclusion, the attitude towards the milk industry by state and city should be identically, working in harmony under similar principles with the same object in view, a comprehensive system of protection from dairy to consumer. The state should exercise its functions and control until it passes to within the municipal limits and authority, and should include every feature and detail in all aspects of protective sanitation. These features include briefly:

1. The license system, with fee, systematic periodic inspections, with revoking power and penalties for deriliction.

2. The inspection system should include herds (tuberculin tests), foods, animal care.

3. Demand sanitary environment and buildings, correcting existing evils, and examination and approval of plans pending erection of new ones, which should comply with a standard of sanitary construction with especial reference to specfic requirements of the business, viz., separate milking and stabling quarters,

proper cubic air space, non-absorbent material.

Scrutiny of water supply, standard feeding, health of employees, hygienic care of utensils and cans, cleanliness and protection in milking.

5. Definite rules governing all procedures, particularly as to the cooling process, preparation for market, and in relation to the varying seasons.

6. The differentiation of the various characters of milk by different colored or shaped cans, and being properly labeled with date of milking, time of shipment.

7. Prohibition of milking preservatives and coloring agents, of adulteration, and of the marketing of milk from diseased, sick or parturient cows, of the use of disinfectants, their necessity implying bad sanitation.

8. The prohibition, particularly, of refuse or swill food upon any dairy premises, of any food, which by reason of decomposition or fermentation, is considered unhealthful, and of the association of other domesticated or housing animals with cows.

9. A standard of quality, with periodic testing and analysis.

10. Veterinary inspection with distinction and compensation within, and quarantine against the introduction of tuberculous cattle from without the state. It should be as rigid as against pestilence in man.

With this standard of supervision by the state, the municipality should continue the supervision upon the same lines, which may be outlined as follows:

1. Continuation of the license system with penalties, together with stringent ordinances covering quality, adulteration, sanitary care, and relation to contagious disease contamination.

2. Milk should comply with the state standard as determined by lactometer tests, periodically instituted, as ascertained both in milk houses and on wagons.

3. Sanitary non-absorbent milk rooms, of determined size, air space, ventilation and light. With specifically constructed, indirect plumbed cooling and storage boxes, and non-communicating sleeping rooms, privies, stables or other influencing rooms.

4. Wagons properly lettered and numbered, with protection from summer heat.

5. Stringent prohibition regarding intercourse with houses containing contagious diseases, particularly relating to the exchange of milk bottles, and the prohibition of refilling of jars en route. The constant surveillance of contagious disease in relation to milk routes by means of the "Tell-tale Register."

6. Obligatory cleansing of milk utensils by a uniform method, and of cans before returning to the dairy.

7. Special supervision of and discouragement, if not abolishment, of grocery store and similar character milk sellers, where the business is subordinate to other interests, and consequent lack of protective facilities.

8. Until state and city act in unison in this, where interests are identical, the question of arbitrary interdiction or destruction, at the city line, of all milk coming from dairies whose conditions, or herds, may have a deleterious influence upon the milk.

9. Systematic reports with mutual warnings and notification of imperilling conditions.

EAST ST. LOUIS CITY HALL OPENED.

The magnificent new city hall at East St. Louis, Ill., was dedicated on June 19 with appropriate ceremonies. Mayor M. M. Stephens, who in 1897, started the movement for the new hall, delivered the principal address, congratulating the city upon its progressiveness and reviewing the history of the new building.

In 1896 the old city hall was destroyed by a cyclone and the necessity of providing a new home for the municipal government confronted a city with its bonded debt up to the constitutional limit. A committee of citizens was formed, the old city hall site was sold to them for $25,000; then, through the efforts of Mayor Stephens, a mortgage of $90,000 on the site and the contemplated structure was floated, giving the committee the means necessary to build the new hall for which plans had been furnished by Architect E. C. Janssen of St. Louis.

The $25,000 paid to the city for the site was returned to the committee and the council passed an ordinance to rent the new building from the committee at $10,000 a year for nine years, at the expiration of which the structure is to become the property of the city. A special act of the legislature authorizes the council to levy a tax to cover the annual rental.

The new city hall, which is said to be the handsomest and best public building in Illinois, outside of Chicago, cost $99,618.60, and the hardwood, steel, gas and electric furnishings cost about $20,000.

CABLE SAVED MANY LIVES.

At the fire which destroyed the home of Joseph Pulitzer, of the New York "World," on the morning of January 9, an electric cable was the means of saving the members of the family and the servants from being burned in their beds. Mrs. Pulitzer and the other members of the household were awakened at the outbreak of the fire by the ringing of electric bells, the bells being rung by the automatic action of the Montauk multiphase cable, which was strung about a part of the house. On the alarm thus given all those in the house made good their escape, but two women servants who reentered the building lost their lives. If the Pulitzer house had been thoroughly provided with the Montauk cable the alarm would have been given in time to extinguish the flames in their incipiency, but as it was, with only a part of the house wired, the bells were not set ringing until the fire had reached that part.

COL. WARING'S SUCCESSOR DEAD.

James F. McCartney, commissioner of street cleaning of New York city, died of consumption on February 6. He was born in New York forty-nine years ago, received his education in the public schools and became an active politician early in his career. He held an important position in the department of public works for some years prior to the Strong administration, and was appointed commissioner of street cleaning by Mayor Van Wyck in January, 1898. Being the successor of Colonel Waring in this office much was expected of Mr. McCartney, and it must be said that he performed the duties of his office with ability. Mr. McCartney leaves a wife and four children.

MACHINERY APPARATUS AND SUPPLIES
FOR PUBLIC SERVICE.

Important Notice.

No paid articles will ever be published in this department. It is the intention of "City Government" to use this space exclusively for the purpose of bringing to the attention of city officials and municipal contractors all machinery, apparatus and supplies designed for the public service. By observing these columns from month to month, officials and contractors will frequently learn of something to facilitate and economize their work.

Machine for Cleaning Catch Basins.

The board of contract and supply of Syracuse, N. Y., is considering the advisability of purchasing and putting into service a Decarie automatic gully cleaner. This machine, which is in successful use in Boston and other cities, was exhibited at Syracuse last fall during the convention of the League of American Municipalities. A large number of city engineers witnessed its operation and expressed the opinion that its use would save much time and money in the work of cleaning catch basins.

City Engineer Stuart of Syracuse reports that there are on the principal streets 1,088 large catch basins, the cost of cleaning which last year was $4,500. In the budget for this year the allowance has been put at $4,563. With the proposed apparatus it is thought that one-half of this appropriation might be sufficient.

Continental Water Filter System.

The Continental Filter Company, 35 Wall street, New York, have just issued a book that describes concisely and accurately their improved system of water filtration. It shows that in the Continental system sedimentation is affected by duplicate subsidence tanks, into which the water, after the coagulent is applied, is introduced and brought to a state of complete rest. The length of the period of subsidence is determined by the amount and character of the suspended matter in the water. Careful observation on large plants in operation on western waters show the removal by this sedimentation alone of upwards of 60 per cent. of the suspended matters. This method has many advantages, which are pointed out in the book, which, by the way, is handsomely illustrated.

The improved Continental gravity system has been installed at Louisiana, Mo., for the municipal supply, and after several months continuous operation its bacteriological efficiency has been tested under the direction of Amand Ravold, professor of bacteriology and hygiene in the medical department of Washington University, St. Louis. The test covered a full week's continuous run, samples being drawn for analysis every three hours. Prof. Ravold's report shows: Average bacteriological efficiency during entire run, 97.3 per cent.; highest efficiency, 99.9 per cent.; lowest efficiency, 94.8 per cent.; highest number of bacteria in crude water, 57,000 per C. C..; lowest number of bacteria in crude water, 400 per C. C.; highest number of bacteria in filtered water, 72 per C. C.; lowest number of bacteria in filtered water, 36 per C. C.; bacteriological efficiency of washing, 98 per cent.; period of preliminary subsidence before filtration, one hour and forty-eight minutes; rate of filtration, two gallons per square foot area of filtering surface per minute.

Standard Voting Machine.

The question of voting by machine in New York city is now under consideration. The Standard Voting Machine Company have placed their machines on exhibition at a number of the leading political clubs in the city, and also at Tammany Hall, the Republican Committee Headquarters and the office of Supt. of Elections McCullagh. These machines have been critically examined by many of New York's leading citizens and the unanimous verdict is that they should be put in service at the coming election. The New York dailies have all editorially advocated the adoption of the voting machine. The Brooklyn "Daily Times" says:

"There is on exhibition in this city a voting machine which is one of the modern wonders of mechanical science. It permits men to vote in any manner in which they are able to vote at present. They can vote any kind of a split ticket that they can now prepare with the ordinary ballot and a lead pencil. At the same time it prevents them from spoiling their ballots or marking them in any illegal fashion. It allows each man but one vote. Another advantage it possesses over the ordinary blanket ballot, such as we use now, is that half an hour after the polls are closed the full return is in and accurately counted. There are no long delays and no disputes over rejected ballots. There would also be no appeals to the courts for a recount. Voting by machinery is certainly the future method of balloting. New York city should follow the example of some of the wide-awake up-state cities and adopt this method of casting and counting ballots."

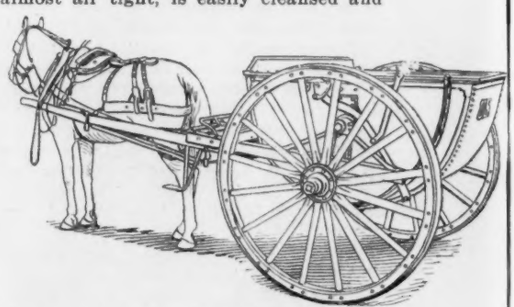
Municipal Supplies Are Up.

Here is an interesting letter, which is self-explanatory, written to Commissioner of Public Works McGann, of Chicago, by Irving Washington, the city business agent :

"In reply to your verbal inquiry with reference to present prices of materials used in large quantities by the city as compared with the prices which prevailed a year ago, I have to advise you that current prices represent increased cost to the city in almost all lines and that there has been marked advance in many principal items. The largely increased cost of iron has materially brought about corresponding advances in all iron and steel products. Wrought iron pipe, of which the city uses a large quantity in extending and repairing steam plants, has advanced 50 per cent. within the year, and no less than 250 per cent. eighteen months ago. Nails which cost the city $1.60 per keg in January, 1898, are worth $3.30 to-day. Scoop shovels for street cleaning were bought last winter for $6.85. A large supply, not yet exhausted, was purchased about three months ago at $9.20, and the same scoops now would cost about $14. Brick has advanced within the year $1 per thousand, or about 20 per cent.; gravel and crushed stone show increased cost in about the same proportion; cedar blocks are worth 50 per cent. more; lumber has gone up from 25 to 50 per cent., and the greatest advances have been in grades which are required by the city for repair work. I have mentioned instances enough to indicate that funds appropriated for materials and supplies have largely reduced purchasing power and the effect is the same as would be brought about by corresponding decreases in appropriation if prices had remained unchanged."

Sanitary Garbage Vehicles.

A number of municipalities and contractors are equipping themselves with the novel and excellent garbage carts made by the United States Sanitary Company, Washington, D. C. These vehicles are made in various sizes; the body is almost air tight, is easily cleansed and



has two lids for easy loading. The axle is encased in a tube which runs through the body of the cart. An illustrated descriptive catalogue, giving all details concerning the cart, will be sent to any official or contractor upon application to the company.

New Garbage Furnace Started.

A new Dixon garbage crematory has been put in successful operation at La Fayette, Ind. It was constructed at a cost of $8,400, and has a capacity of twenty-four tons of wet garbage per twenty-four hours. At present about twelve tons are being consumed daily, and the people in the immediate neighborhood of the crematory are well satisfied with its sanitary operation.

A new ordinance providing for the collection of the garbage is being enforced. Special sanitary wagons are being used, and householders are required to keep all garbage in covered receptacles, handily placed for the collectors. The city does all the work, the labor expense being $295 per month for four teams and four drivers and two furnace men.

—The Gamewell Fire Alarm Telegraph Company, New York, are now engaged in executing several large contracts for new fire alarm and police signal systems in different parts of the country.

PLEA FOR ASSOCIATED CHARITIES IN OHIO CITIES.

[Substance of a paper read before the League of Ohio Municipalities, by the Hon. L. B. Gunckle of Dayton.]

Public help to the poor has been the established policy of Ohio for a hundred years, and the principle is strongly entrenched in the hearts of the people. No tax is more cheerfully paid than the poor tax. Has it done the good that was intended, and, of right, expected?

For the fiscal year ending November 15th, 1896, there was raised by taxation in this state and expended by public officials for benevolent purposes the sum of $4,361,614.65; for the year 1897, the sum of $3,945,135.70; and for the year 1899, the sum of $4,394,913.98.

Of these amounts over $2,000,000 was ostensibly expended, each year, for the relief of the poor—enough, it would seem, if honestly and faithfully administered to have relieved every really destitute man, woman and child in the state. Was it done? We know it was not. During the past three winters a hundred thousand people in the cities alone have been in sore need of food, fuel and clothing. They sought relief from the public funds, and in almost every city they were refused on

[Continued on next page.]

the ground that the fund was exhausted. Thanks to a generous people, none were left to suffer; all were helped through private charity. But why should people be compelled to pay twice for the same thing? Why was the public fund exhausted in the very beginning of the winter? What was done with the money?

For out-door relief alone there was expended last year $459,627.32 for the ordinary poor, and $317,405.23 for soldiers' relief, making a total of $777,032.55. For several years past the sum expended for out-door relief (exclusive of the soldiers' relief fund) was nearly $500,000 per annum, and the total amount so expended during the past fifteen years has been $6,500,000. And yet year after year, the Legislature was told by the state board of charities that the expenditure of this immense sum of money had done no good, but actual harm. For example: In its report of 1891 the board said: "Our system of outdoor relief is expensive and wasteful," and "tends to pauperize those who receive it." In 1892: "The distribution of the fund in Ohio, as in every state and county, is attended with corruption, imposition and favoritism," and in 1890 the board recommended "the abolition of the system in large towns and cities entirely."

Their position finds strong support in the reports of the boards of charity in other states, in the proceedings of the National Conference of Charities, and in almost all of the many books, recently published on sociological subjects. So, too, it finds support in the actual experience of several cities in the east. In Philadelphia, where the annual expenditure reached $82,000, it was cut off entirely, without, it is claimed, any real injury to the poor, and without any increase in the population of the almshouses. Mr. Seth Low, who had been mayor of Brooklyn, told the National Conference in 1879, that "out-door relief in that city became a vast political corruption fund; given to political friends whether they needed it or not; that what was received was often sold, and that the poor did not get the chief benefit; most went to underlings connected with the work of distribution." He gave an instance of one woman who received help under nine different names. Upon his recommendation, the law was repealed, and the relief cut off entirely. For similar reasons, New York city has given no out-door relief since 1875. Baltimore, San Francisco, Washington, Kansas City, Denver, Atlanta and Memphis have followed, and almost all the other cities are gradually reaching the same conclusion. And yet the poor in these cities have not suffered; and the number of people supported in the alms-houses has not been increased, but actually decreased. This is as Mr. Homer Folks explained, at the last convention of the League of American Municipalities, because extended experience and careful study have shown that "material relief from public funds causes more suffering than it relieves, undermines the desire for self-support, discourages foresight and thrift, and encourages immorality and political corruption."

[To be concluded in next issue.]

—The borough council of Mt. Carmel, Pa., has placed an annual tax of one dollar on each telegraph, telephone, or electric light pole erected in the borough and also an annual tax of $2.50 on each mile of wire.

Recent Inventions.

(Reported special for "City Government," by Arthur M. Hood, Attorney, Indianapolis, Ind.)

Combined sprinkler and dirt wagon, J. J. Eck, New York, N. Y.—A two-wheel hand truck upon which is detachably mounted a dirt can and water reservoir provided with sprinkling nozzles.

Street pavement softener, W. J. Gillett and E. B. Doen, Syracuse, N. Y.—A two-wheel hand truck carrying two sets of carbon terminals. The points of the terminals may be brought near each other close to the pavement, so that an electric arc may be formed close to the pavement.

Street Sweeper, James Maxon, Burbank, Cal., assignor to Azusa Mfg. Co., Los Angeles, Cal.

Underground conduit, C. H. Sewall, Chicago, Ill.—A continuous underground conduit formed of concrete.

Filter for purifying sewage, W. M. Ducat, London, England.—An aerobic bacterial filter, having a series of air supply pipes connecting the effluent collecting floor with the exterior atmosphere in such manner as to cause the air supply to be heated by the heat from the effluent.

Garbage cart, Alexander Hartwich, Vienna, Austria-Hungary.—More properly a street sweeper's hand cart, having a detachable receptacle and a sprinkling reservoir

—By sending a postal card to the Chicago Fire Hose Company, 54 La Salle street, Chicago, any fireman may secure postpaid a fine large portrait of Chief D. J. Swenie, a copy of the Van Ness painting.

—General Manager W. T. Cole, of the Fabric Fire Hose Company, New York, says last year was the largest one for business his house has ever experienced and the New Year is opening with prospects of largely surpassing the trade of 1899. The Fabric Company's factory is running day and night in order to keep up with orders.

"Contracting and Purchasing Directory."

ALARM SYSTEMS, FIRE AND POLICE.

Gamewell Fire Alarm Telegraph Co., 19 Barclay St., New York.

ASPHALT.

Alcatraz Co., San Francisco and New York.
Assyrian Asphalt Co., Chicago.
New York Mastic Works, 32 Broadway, New York.

BONDS.

Rudolph Kleybolte & Co., New York.

BAG CARRIERS.

Thornton N. Motley Co., 43 John St., New York.

BRIDGES.

The La Fayette Bridge Co., 800 Perin Building, Cincinnati, O.

BROOMS.

F. H. Bookhop, 123 Warren street, New York.

CEMENT.

Atlas Cement Co., 143 Liberty St., New York.
Assyrian Asphalt Co., Chicago.
Buckeye Portland Cement Co., Bellefontaine, Ohio.

CHEMICAL ENGINES.

Fire Extinguisher Mfg. Co., 325 S. Desplaines St., Chicago, Ill.

CIVIL AND CONSULTING ENGINEERS

J. T. Fanning, 330 Hennepin Ave., Minneapolis, Minn.
Alexander Potter, 137 Broadway, New York
Wise & Watson, Passaic, N. J.
Charles Carroll Brown, C. E., Bloomington, Ill.
Edward D. Bolton (Landscape), 224 West Seventy-ninth street, New York.
W. D. Lovell, Des Moines, Iowa.
City Waste Disposal Co., 874 Broadway, New York.
Emil Kuischling, C. E., Rochester, N. Y.
Iowa Engineering Co., Clinton, Iowa.
Rudolph Hering, 100 William St., New York.

CONTRACTORS.

Assyrian Asphalt Co., Chicago.
J. H. Esson, Chicago.

COUPLINGS, HOSE.

The W. J. Clark Co., Salem, Ohio.
Wm. Aungst, Alliance, O.

CARTS.

Thomas Hill, Jersey City, N. J.
Shadbolt Mfg. Co., 68 Flushing Ave., Brooklyn, N. Y.

DAMP COURSE.

Assyrian Asphalt Co., Chicago.

ELECTRICAL APPARATUS.

The Siemens & Halske Electric Co., Chicago.

FILLER, ASPHALT.

Assyrian Asphalt Co., Chicago.

FIRE APPARATUS.

Fire Extinguisher Mfg. Co., 325 S. Desplaines St., Chicago, Ill.
The Seagrave Company, Columbus, O.

FIRE EXTINGUISHERS.

Fire Extinguisher Mfg. Co., Chicago.

FIRE FELT COVERING.

H. W. Johns Mfg. Co., 100 William St., New York.

FIRE HOSE.

Fabric Fire Hose Co., 68 Murray St., New York.
Gutta Percha & Rubber Mfg. Co., 35 Warren St., New York.
Mineralized Rubber Co., 18 Cliff St., New York.
New Jersey Car Spring & Rubber Co., Jersey City, N. J.
Peerless Rubber Mfg. Co., 16 Warren St., New York.
Tate & Co., Chicago.
Eureka Fire Hose Co., New York.

FIREMEN'S EQUIPMENTS.

Charles H. Sass, 105-107 North Fifth St., Philadelphia.

FLOORS, ASPHALT.

Assyrian Asphalt Co., Chicago.

FLUSH TANKS.

Pacific Flush Tank Co., Chicago, Ill.

GULLY CLEANERS.

Henry W. Atwater, 72 Imperial Bldg., Montreal, Canada.

GARBAGE FURNACES.

Henry W. Atwater, 72 Imperial Bldg., Montreal, Canada.
Thackeray Incinerating & Fertilizing Co., Singer Bldg., New York.

HORSE COLLARS AND HARNESS TRIPS.

United States Horse Collar Co., 52 Broadway, New York.

INSPECTORS.

W. R. Conard, Burlington, N. J.

INSULATED WIRES AND CABLES.

Montauk Multiphase Cable Co., 100 Broadway, New York.
Okonite Co., 253 Broadway, New York.

MASTIC.

Assyrian Asphalt Co., Chicago.

METER TESTING APPARATUS.

Pittsburg Meter Co., East Pittsburg, Pa.

NOZZLES.

Henry W. Atwater, 72 Imperial Bldg Montreal, Canada.
Fire Extinguisher Mfg. Co., 325 S. Desplaines St., Chicago, Ill.
New Jersey Car Spring and Rubber Co., Jersey City, N. J.
Wm. Aungst, Alliance, O.

PAINTS, ASPHALT.

Assyrian Asphalt Co., Chicago.

PIPE, SEWER AND CULVERT.

H. Stevens' Sons Co., Macon, Ga.

PIPE COATINGS, HOT.

Assyrian Asphalt Co., Chicago.

PUMPS, CONTRACTORS' DRAINAGE AND SEWERAGE.

Maslins, 165-197 First St., Jersey City, N. J.

PATENTS.

Arthur N. Hood, Indianapolis, Ind.

ROAD MACHINES.

Austin & Western Co., Ltd., Chicago Ill.

ROCK DRILLS.

T. N. Motley Co., 43 John St., New York.

ROCK CRUSHERS.

Austin & Western Co., Chicago, Ill.

SMOKE PROTECTORS.

Vajen-Bader Co., Indianapolis, Ind.

STEAM FIRE ENGINES.

American Fire Engine Co., Seneca Falls, N. Y., and Cincinnati, O.
La France Fire Engine Co., Elmira, N. Y.
Manchester Locomotive Works, 40 Water St., Boston, Mass.

STREET-CLEANING APPARATUS.

Austin & Western Co., Ltd., Chicago, Ill.
Thornton N. Motley Co., 43 John St., New York
Henry B. Walker, 208 S. Wayne Ave., Dayton, Ohio.

STREET CONTRACTORS' SUPPLIES.

Austin & Western Co., Chicago, Ill.
T. N. Motley Co., 43 John St., New York.

STREET SWEEPERS.

Austin & Western Co., Chicago, Ill.
Charlton Mfg. Co., New York.
H. B. Walker, Dayton, O.

STREET LAMPS.

Pennsylvania Globe Gas Light Co., 248 North Broad St., Philadelphia, Pa.
Welsbach Street Lighting Co., 246 N. Broad St., Philadelphia, Pa.

STREET SPRINKLERS.

Austin & Western Co., Ltd., Chicago, Ill.
Studebaker Mfg. Co., New York.
Winkler Bros., South Bend, Ind.

SEWAGE AND GARBAGE DISPOSAL.

City Waste Disposal Co., 874 Broadway, New York.

STONE PAVEMENTS.

Clafien Paving & Contracting Co., Cleveland, Ohio.

UNIFORMS.

George Evans & Co., 132 North Fifth St., Philadelphia.

VOTING MACHINES.

U. S. Voting Machine Co., Jamestown, N. Y.
Standard Voting Machine Co., Rochester, N. Y.

WATER FILTERS.

Continental Filter Co., 44 Wall St., New York.
O. H. Jewell Filter Co., Chicago, Ill.
New York Filter Mfg. Co., 120 Liberty St., New York.

WATER METERS.

Buffalo Meter Co., 363 Washington St., Buffalo, N. Y.
Pittsburg Meter Co., East Pittsburg, Pa.
Thomson Meter Co., Brooklyn, N. Y.
Builders Iron Foundry, Providence, R. I.

WAGONS.

Shadbolt Mfg. Co., 68 Flushing Ave., Brooklyn, N. Y.